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29 March 2013

Mr. Jonathan S. Davis
Remediation Program Manager
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322 E. Inner Road
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SUBJECT: AFCEC 4P08 FA8903-08-D-8769; Task Order 0337
MMR SPEIM/LTM/O&M Program
CDRL #A001j
LF-1/CS-23 2012 Summary Letter Report

Dear Mr. Davis:

The purpose of this Summary Letter Report (SLR) is to document the results of sampling activities conducted at the Landfill-1 (LF-1) and Chemical Spill-23 (CS-23) plumes under the System Performance and Ecological Impact Monitoring (SPEIM) program during the 2012 calendar year. The close proximity of the LF-1 and CS-23 plumes and remedial systems warrant that the LF-1 and CS-23 SPEIM programs be combined (**Figure 1**). Therefore, data collection, data assessment, groundwater modeling, and reporting are performed jointly under a combined LF-1/CS-23 SPEIM program.

In October 2012, the Air Force Center for Engineering and the Environment (AFCEE) adopted a new organizational name, the Air Force Civil Engineer Center (AFCEC). Therefore, the AFCEE and AFCEC acronyms refer to the same entity, but are used in this document in relation to the date of a specific topic or document.

This deliverable contains no detailed assessment or evaluation of the results, but is a means of documenting all the actions completed under the LF-1/CS-23 SPEIM program. The data collected under the SPEIM program are continually assessed and the results of these assessments are presented initially during the Technical Update Meetings and then through Technical Memoranda or Project Note deliverables, if warranted, based on the results of the data evaluation or to address particular plume issues.

This letter report includes a summary of the activities performed and the data collected for the LF-1/CS-23 SPEIM program between 01 January 2011 and 31 December 2012. The LF-1 and CS-23 contaminants of concern (COCs) and their respective groundwater standards are presented in **Table 1**. The LF-1 and CS-23 plumes are defined by the presence of their COCs in excess of the applicable groundwater standards.

The selected remedy for the LF-1 groundwater plume provides for continued active treatment of the LF-1 plume with the existing extraction, treatment, and infiltration (ETI) system and expansion of the system to improve capture of the southern lobe at the base boundary (expansion implemented in 2006), Land Use Controls (LUCs), and the Bourne Water Provision (AFCEE 2007a). The LF-1 ETI system began operation on 26 August 1999. The original system consisted of five extraction wells (27EW0001, 27EW0002, 27EW0003, 27EW0004, and 27EW0005), a modular granular activated carbon (GAC) treatment plant, an infiltration gallery, and two infiltration trenches. A sodium hypochlorite injection system was added to the LF-1 treatment system in August 2000 to reduce biofouling. The extracted groundwater is treated through the GAC system and returned to the aquifer. Contamination downgradient (i.e., west) of the base boundary (**Figure 1**) is expected to decrease to below cleanup levels through natural attenuation.

The need for a sixth LF-1 extraction well was identified in the *Final LF-1 Remedial System Optimization Modeling Technical Memorandum* (AFCEE 2005) in order to prevent the continued migration of tetrachloroethene (PCE)-contaminated groundwater around the southern end of the original LF-1 ETI system. The construction of the sixth LF-1 extraction well (27EW0006) and associated pipeline was completed in 2006 along with the construction of the nearby CS-23 remedial system.

The treated groundwater from the LF-1 treatment plant was originally returned to the aquifer through the infiltration gallery and trenches. In the Fall of 2006, it was discovered that the capacity of the infiltration gallery was decreasing. An investigation was conducted at the infiltration gallery and concluded that a reinjection well should be installed adjacent to the LF-1 infiltration gallery and trenches to return treated water to the aquifer (AFCEE 2008). The reinjection well (27RIW0001) began operation on 27 February 2008 and the treated water from the LF-1 plant was returned to the aquifer through a combination of the reinjection well and the infiltration gallery and trenches during 2012.

The U.S. Department of Veterans Affairs (VA) expanded their facility and grounds in 2008 and requested the use of LF-1 treated groundwater for irrigation of the expanded grounds. AFCEE investigated the feasibility of that action using the LF-1/CS-23 groundwater model, assuming an average annualized effluent diversion of 135 gallons per minute (gpm) to the VA irrigation system. The modeling predictions indicate that the diversion of treated water will not adversely affect the LF-1 plume or system performance (AFCEE 2007c). Effluent water from the LF-1 treatment plant began to be diverted to the VA irrigation system in May 2008. Based on information provided by the VA, the average annualized effluent flow diversion from the LF-1 treatment plant to the VA irrigation system between January and December 2012 is estimated to be approximately 65 gpm, which is well below the value used in the modeling evaluation. Therefore, it can be concluded that the diversion of effluent to the VA during 2012 for irrigation continues to have no adverse affect on the remedial actions at LF-1.

The Final LF-1 and CS-23 Records of Decision (RODs) were submitted in October 2007 (AFCEE 2007a,b). The selected remedy for the LF-1 source area (the 1970 cell, Post-1970 cell, and the kettle hole) provides for continued monitoring and maintenance of the existing landfill cover system with LUCs. The landfill cover system was designed to prevent infiltration of precipitation into this portion of the landfill. The three most recently used disposal areas (the 1970 cell, Post-1970 cell, and the kettle hole) were

capped in December 1995. The three older disposal cells (1947, 1951, and 1957) were covered with soil and are identified collectively as the Northwest Operable Unit (NWOU) (**Figure 1**). The LF-1 ROD addresses the capped portion of the landfill and the LF-1 groundwater plume. The uncapped portion of the landfill, the NWOU, is not included in the LF-1 ROD. The NWOU will be addressed in an Explanation of Significant Differences (ESD), scheduled for submittal in 2013.

The CS-23 plume is detached from an unknown source area that was believed to have been on the Massachusetts Military Reservation (MMR). The selected remedy for the CS-23 groundwater plume provides for active treatment of the plume with an ETI system and LUCs (AFCEE 2007b). The CS-23 remedial system is composed of two extraction wells (27EW0007 and 27EW0008) and two infiltration trenches (the East and West trenches). The CS-23 extraction wells, infiltration galleries, and the sixth LF-1 extraction well (27EW0006) began operation on 05 December 2006. Groundwater extracted from the two southernmost LF-1 extraction wells (27EW0002 and 27EW0006) is directed to the Hunter Avenue Treatment Facility (HATF) along with groundwater from the CS-23 extraction wells (27EW0007 and 27EW0008). The flow from the two LF-1 extraction wells was diverted because of capacity limitations at the LF-1 treatment plant, coupled with the available capacity at the HATF. This flow diversion from 27EW0002 and 27EW0006 to the HATF will allow for increased extraction from the four LF-1 extraction wells that convey groundwater to the LF-1 treatment plant, if needed in the future. The HATF also treats groundwater from the Southwest Plumes (AFCEC 2013).

The design flow rate of the original LF-1 treatment system was 700 gpm. In July 2012, the LF-1 and CS-23 extraction wells began operating at optimized flow rates with 595 gpm being treated at the LF-1 treatment plant, and 1,300 gpm being treated through the LF-1/CS-23 treatment train at the HATF (600 gpm from LF-1 extraction wells, 700 gpm from CS-23 extraction wells). This operational condition is referred to as 2012 Scenario 01. The LF-1 and CS-23 plumes and treatment systems are presented in **Figure 1**.

An ESD for the Installation Restoration Program groundwater plumes was submitted in September 2011 that clarified the inclusion of monitored natural attenuation as a component of the selected remedy, slightly modified the phrasing of the remedial action objectives, and updated the steps to achieve site closure (i.e., the three-step process) (AFCEE 2011b).

LF-1/CS-23 SPEIM ACTIVITIES

The SPEIM program was developed to monitor plume changes and to ensure the effective operation of the AFCEC groundwater remediation systems at MMR. These objectives are met through monitoring of selected media (i.e., groundwater, surface water) within and outside the plume boundaries, treatment plant monitoring, and groundwater flow and transport modeling. Activities completed for the LF-1/CS-23 SPEIM programs during 2012 include the following:

SPEIM Sampling Activities:

- Triennial groundwater sampling (May and June 2012)
- Annual public water supply sentry well sampling (September 2012)

- A full topographic survey of the capped landfill cells and the annual landfill settlement survey (March 2012)
- Annual landfill inspection (October 2012)
- Semiannual gas probe monitoring (January and July 2012)
- Recreational beach area surface water and groundwater seep sampling (April 2012)
- Monthly treatment plant sampling (January through December 2012)
- Quarterly and semiannual extraction well sampling (January, April, July, and October 2012)
- Recording of daily average treatment system flow rates (January through December 2012)

The groundwater, seep, and surface water locations sampled for the LF-1/CS-23 SPEIM program in 2012 are presented in **Figure 2** (note that monitoring in the dowgradient northern and southern lobes occurs on a triennial frequency). Well construction, staff gauge, piezometer, surface water, and seep sample information is included in **Table 2**. The current approved LF-1 and CS-23 SPEIM networks, including the analytical scope and methods, are presented in the *Comprehensive Long Term Monitoring Plan*, which is available from AFCEC.

LF-1 groundwater, seep, and surface water analytical results are presented in **Table 3** and CS-23 groundwater analytical results are presented in **Table 4**; these summary tables include results for each of the plumes respective COCs and the field water quality parameters (where collected). The distribution of COC detections in groundwater at LF-1 and CS-23 is presented in **Figure 3**. A comparison of compounds detected in groundwater, surface water, and treatment plant samples to applicable standards is included in **Attachment A**. **Attachment B** contains landfill monitoring results including the landfill inspection summary, the landfill settlement survey results, and vapor probe sampling data transmittals to the Massachusetts Department of Environmental Protection (MassDEP). Historical data for the Town of Bourne public water supply wells is included in **Attachment C**.

An ecological evaluation of LF-1 and CS-23 wetlands and surface water bodies continues to be performed to determine if there are any hydrological or ecological effects on Spectacle Wetland and Vernal Pool No. 651 as a result of the operation of the expanded LF-1/CS-23 ETI system. The following ecological evaluation activities have been completed during the 2012 calendar year:

- Hydrologic monitoring of ecosystems through monthly (January through December 2012) water level measurements (**Figure 4**)
- A vegetation and wildlife survey (April 2012)

The 2012 ecological evaluation results (AFCEE 2012e) are provided in **Attachment D**. Prior ecological evaluations are presented in previously submitted documents (AFCEE 2009a, 2009b, 2010, 2011c and 2011a).

Drilling Activities:

Groundwater vertical profile samples were collected and a monitoring well was installed using the AFCEC direct push rig at 27MW2062. This location is hydraulically downgradient of the NWOU and was requested by MassDEP during comment resolution on the *Final LF-1 2011 Post-Closure Monitoring Plan Update* (AFCEE 2012f). Groundwater vertical profile samples were collected at three locations (69DP1722A through 69DP1724A) in June 2012 using the AFCEC direct push rig for a data gap investigation at CS-23 (AFCEE 2012c). Two monitoring wells (69MW1722A and 69MW1723A) were installed at two of the drilling locations. The four LF-1/CS-23 direct push drilling locations are presented in **Figure 2**, and the location information is included in **Table 1**. The groundwater vertical profile results from the direct push borings and the well construction diagrams for the newly installed monitoring wells are included in **Attachment E**. The distribution of COC detections based on groundwater vertical profiling results are included on **Figure 3**.

Data Summary Report:

The data summary report for the analytical data reported in this SLR is included in **Attachment F**.

Presentations:

Presentations for the LF-1 and CS-23 plumes are listed in **Table 5**.

Project Note Submittals:

The project notes related to activities conducted for the LF-1 and CS-23 plumes under the SPEIM program in 2012 are included in **Attachment D**.

Report Submittals:

- *LF-1/CS-23 2011 Summary Letter Report* submitted in March 2012 (AFCEE 2012g)
- *Final LF-1 2011 Post-Closure Monitoring Plan Update* submitted in July 2012 (AFCEE 2012f)
- *Final 2011 MMR Vapor Intrusion Evaluation Technical Memorandum* submitted in August 2012 (AFCEE 2012d).
- *Bourne Upgradient Groundwater Monitoring Letter Report* submitted in October 2012
- *LF-1 Groundwater Plume Conceptual Site Model* submitted in November 2012 (AFCEE 2012b)
- *CS-23 Groundwater Plume Conceptual Site Model* submitted in December 2012 (AFCEE 2012a)

Major Events and Optimizations:

A modeling evaluation was completed in 2011 at LF-1/CS-23 using parameter estimation (PEST) software to optimize the operation of the existing remedial system (AFCEE 2013). The goal of this evaluation was to identify an operating strategy that would

minimize the remedial system lifecycle costs while meeting the remedial design objective of plume containment at the base boundary (AFCEE 2007a,b).

The U.S. Environmental Protection Agency (EPA) provided comments on the PEST optimization modeling results that were predominantly related to the modeled restoration timeframe predicted using the PEST approach versus the timeframes presented in the ROD, as well as the difference in model predicted mass removal by the remedial system under the optimized scenarios that were simulated. Based on the nature of the review comments received on the PEST project notes, and on discussions with the regulatory agencies during subsequent Technical Update Meetings, AFCEE believed there was an over emphasis in the decision-making process placed on the long-term plume cleanup predictions generated by the LF-1/CS-23 groundwater modeling completed as part of the PEST evaluation. AFCEE presented monitoring data during follow-up Technical Update Meetings which indicated that the recent PEST modeling predictions using the 2007 version of the plume shell over-predicted both plume extent and contaminant concentrations in the short-term (five years). This effect was likely compounded in the longer-term modeling results (greater than 20 years out), increasing the uncertainty in the restoration timeframes predicted by the PEST modeling. This uncertainty contributed to the regulatory agencies hesitancy in accepting the PEST modeling approach and approval of the optimized flow rates. Therefore, AFCEE rescinded the proposal to implement PEST-optimized flow rates for the LF-1/CS-23 remedial system. As a next step, AFCEE and the regulatory agencies agreed that a comprehensive sampling event would be performed at LF-1/CS-23 in 2013. These data will be used to update the LF-1/CS-23 plume shell and assess the performance of the remedial system (AFCEE 2013). An optimization approach workplan will be prepared by AFCEC for regulatory review prior to proceeding with the optimization evaluation. The optimization evaluation results will be presented at a future Technical Update Meeting and documented in Technical Memorandum or a Project Note deliverable.

In 2011, AFCEE purchased a 20,000-pound (lb) load of virgin coconut shell-based GAC for use in a comparative test at the LF-1/CS-23 treatment system at the HATF. This bed was moved to the lead position on 01 December 2011 and was removed from service after approximately 8 months when the midpoint concentration of carbon tetrachloride (CCl_4) exceeded the reportable limit. Beds of reactivated coal-based GAC have typically last two to three months in the lead position in the LF-1/CS-23 system in the recent past, so this test indicates that the virgin coconut shell-based product has a higher adsorption capacity for CCl_4 than the reactivated coal-based product, resulting in a longer service life. The final results of this GAC optimization evaluation will be reported in a project note in the Summer of 2013.

LF-1/CS-23 Remedial Status Update:

Analytical results for samples collected at the LF-1 treatment plant and HATF are presented in **Table 6** and **Table 7**, respectively. Average weekly flow rates for the LF-1 and CS-23 extraction wells are presented in **Table 8**. Treatment system operational downtimes or deviations (for events lasting two hours or longer) for the LF-1 treatment plant and the LF-1/CS-23 portion of the HATF are summarized in **Table 9**. Mass removal calculations through December 2012 for the LF-1 treatment plant and HATF are presented in **Table 10** and **Table 11**, respectively. Mass removal calculations for each individual extraction well are presented in **Table 12**.

The most recent plume shells for the LF-1 and CS-23 plumes include data collected through 08 August 2007 (AFCEE 2009a). Plume shells were not created in 2007 for two of the LF-1 COCs (1,1,2,2-tetrachloroethane and ethylene dibromide) and one of the CS-23 COCs (CCl_4) because these compounds have very limited areal distribution and low concentrations and separate plume shells were not warranted (AFCEE 2009a). Manganese was added as a COC at LF-1 in 2008 during comment resolution for the LF-1 Record of Decision (ROD) (AFCEE 2007a). A plume shell has not been created for manganese.

The mass and volume of the 2007 dissolved-phase LF-1 and CS-23 plume shells are provided in **Table 13**. In the main body of the LF-1 plume the TCE, CCl_4, vinyl chloride (VC), and 1,4-dichlorobenzene (1,4-DCB) plumes largely fall within the extent of the PCE plume. Therefore, by adding the estimated 4.3 billion gallons of groundwater contaminated with PCE in the main body of the LF-1 plume to the 683 million gallons of groundwater contaminated with TCE in the detached northern lobe of the plume, the total volume of contaminated groundwater for the LF-1 plume (based on the 2007 plume shell) is approximately 5 billion gallons.

The LF-1 treatment plant processed approximately 254 million gallons of contaminated groundwater and removed approximately 6.5 lbs of PCE, 6.6 lbs of TCE, 0.8 lb of CCl_4, 1.4 lbs of VC, and 3.0 lbs of 1.4-DCB in 2012 (**Table 10**). The LF-1/CS-23 portion of the HATF processed approximately 541 million gallons of contaminated groundwater and removed approximately 14.8 lbs of PCE, 17.4 lbs of TCE, and 8.7 lbs of CCl_4 in 2012 (**Table 11**). In total, the LF-1 treatment plant and the LF-1/CS-23 portion of HATF processed approximately 795 million gallons of contaminated groundwater and removed approximately 59 lbs of COCs in 2012. In total, since system startups in August 1999 (LF-1 remedial system) and December 2006 (LF-1/CS-23 remedial system at HATF), the two remedial systems have removed approximately 728 lbs of COCs through the treatment of approximately 7.7 billion gallons of groundwater.

The operation of the LF-1 remedial system used approximately 526 megawatt hours of electricity during 2012. The operation of the LF-1/CS-23 portion of the HATF used approximately 1,038 megawatt hours of electricity during 2012. Power plant air emissions associated with this power generation for 2012 and since system startups are presented in **Tables 14a** and **14b**, respectively. Green energy purchases and power production from AFCEC's wind turbines are incorporated into these air emissions data.

The LF-1/CS-23 remedial system is currently operating under 2012 Scenario 01. Using the most recent plume shells (i.e., 2007) and assuming the system will operate continuously at 2008 Scenario 02 pumping flow rates, groundwater transport modeling results from the *Final LF-1/CS-23 2007 Plume Update Technical Memorandum* (AFCEE 2009a) indicate that:

(1) All LF-1 extraction wells can be shut down by approximately 2047;

(2) All CS-23 extraction wells can be shut down by approximately 2018;

(3) PCE MCL exceedances are predicted to remain in a small area upgradient of the LF-1 ETI system infiltration gallery/reinjection well until approximately 2049;

(4) TCE MCL exceedances are predicted to remain in the southern plume lobe area upgradient of the remedial system until approximately 2058;

(5) PCE concentrations downgradient (i.e., west) of the base boundary decrease to below the MCL by approximately 2034; and

(6) TCE concentrations downgradient (i.e., west) of the base boundary decrease to below the MCL by approximately 2032.

Through the SPEIM program, the Conceptual Site Model is routinely updated and the remedial system operation is continuously evaluated and optimized to reduce cleanup times, therefore, the cleanup timeframes for the portions of the plume upgradient (i.e., east) of the base boundary presented in the preceding section will most likely be decreased in future scenarios.

LF-1/CS-23 SPEIM ACTIVITIES PLANNED FOR 2013

Activities currently planned for the LF-1 and CS-23 SPEIM program for 2013 include the following:

- Annual and supplemental groundwater sampling (February/March 2013)
- Synoptic water level measurements (as needed)
- Annual public water supply sentry well sampling (September 2013)
- Annual landfill settlement survey (April 2013)
- Annual landfill inspection (September 2013)
- Semiannual gas probe monitoring (January and July 2013)
- Monthly treatment plant sampling (January through December 2013)
- Quarterly and semiannual extraction well sampling (January, April, July, and October 2013)
- Recording of daily average treatment system flow rates (January through December 2013)
- Groundwater seep and surface water monitoring through the recreational beach sampling program (May 2013)
- LF-1 ESD (to include NWOU in the ROD) (Spring/Summer 2013)
- Plume shell update and remedial system optimization plan development (Spring/Summer 2013)
- Remedial system optimization assessment/reporting (Summer/Fall 2013)
- LF-1/CS-23 SPEIM Data Presentations (as needed)
- Annual Bourne Upgradient Monitoring Report (October 2013)
- LUC Program private well verification surveys and sampling (as needed)

Additionally, the following activities will be performed as part of the LF-1 and CS-23 ecological evaluation:

- Continue hydrologic monitoring at Spectacle Wetland, Vernal Pool No. 651, and reference locations (monthly when surface water bodies are not frozen).
- Vegetation and Wildlife Survey (Spring 2014).

If you have any questions or comments, please contact Rose Forbes at (508) 968-4670, extension 5613.

Sincerely,

CH2M HILL

N. Tindall

Nigel Tindall, P.G.
Project Manager

Attachments:

Figure 1	LF-1 and CS-23 Groundwater Plumes and LF-1 and Hunter Avenue Treatment Systems
Figure 2	LF-1 and CS-23 Groundwater, Seep, and Surface Water Monitoring and Drilling Locations
Figure 3	LF-1 and CS-23 2012 COC Detections in Groundwater
Figure 4	LF-1 and CS-23 Wetland Hydraulic Monitoring Locations
Table 1	LF-1 and CS-23 Contaminants of Concern and Groundwater Standards
Table 2	LF-1 and CS-23 Well Construction, Staff Gauge, Piezometer, Surface Water, and Seep Sampling Information
Table 3	LF-1 Groundwater, Seep, and Surface Water Monitoring Results
Table 4	CS-23 Groundwater Monitoring Results
Table 5	LF-1/CS-23 Meeting Presentations
Table 6	LF-1 Treatment Plant Sampling Results
Table 7	Hunter Avenue Treatment Facility (LF-1/CS-23) Sampling Results
Table 8	LF-1 and CS-23 Treatment System Flow Rates
Table 9	LF-1 Treatment Plant and Hunter Avenue Treatment Facility (LF-1/CS-23) Downtime Summary
Table 10	LF-1 Treatment Plant Mass Removal Summary
Table 11	Hunter Avenue Treatment Facility (LF-1/CS-23) Mass Removal Summary
Table 12	LF-1 and CS-23 Extraction Well Mass Removal Summary
Table 13	LF-1 and CS-23 Plume Shell Mass and Volume
Table 14a	LF-1 Treatment Plant System Electrical Consumption and Associated Air Emissions
Table 14b	LF-1/CS-23 HATF Electrical Consumption and Associated Air Emissions
Attachment A	Comparison of Detected Concentrations in LF-1 and CS-23 Groundwater, Surface Water and Treatment Plant Samples to Applicable Standards
Attachment B	Landfill Monitoring Results
Attachment C	Bourne Public Water Supply Wells Historical Data
Attachment D	LF-1/CS-23 Project Notes
Attachment E	Direct Push Drilling Results and Well Construction Diagrams
Attachment F	LF-1/CS-23 2012 SLR Data Summary Report

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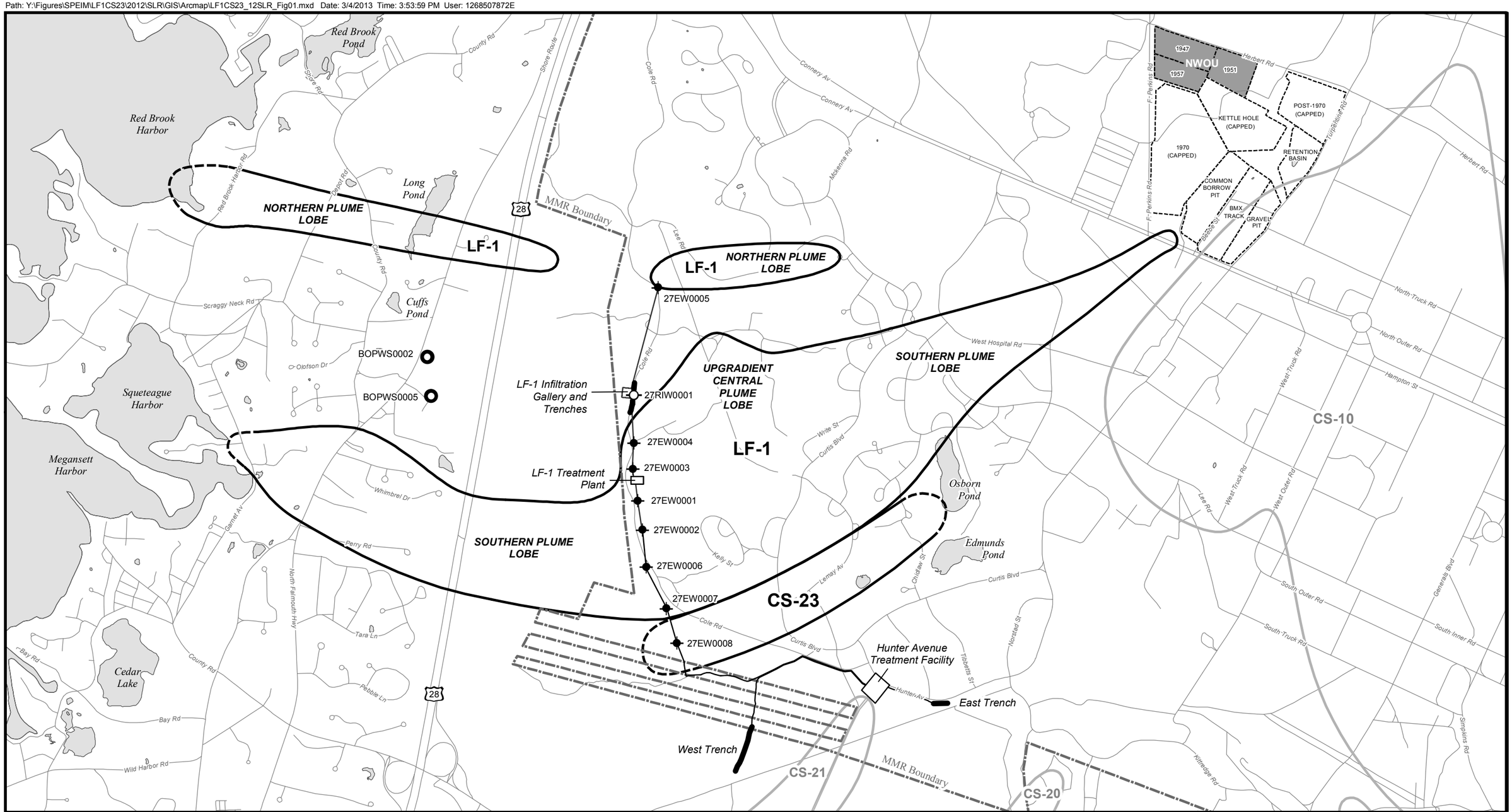
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FIGURES

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Legend

- Extraction Well
- Reinjection Well
- Bourne Public Water Supply Well
- Treatment Plant
- Northwest Operable Unit (NWOU)
- LF-1/CS-23 Treatment System Pipeline
- Southwest Plumes Treatment System Pipeline
- LF-1 and CS-23 Plume Boundaries (Dashed Where Inferred)
- Other AFCEE Plume Boundary
- Infiltration Trench/Gallery
- Landfill Boundary
- Massachusetts Military Reservation Boundary

Data Source: AFCEC, February 2013, AFCEC-MMR Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011

N

0 850 1,700
Feet

FIGURE 1

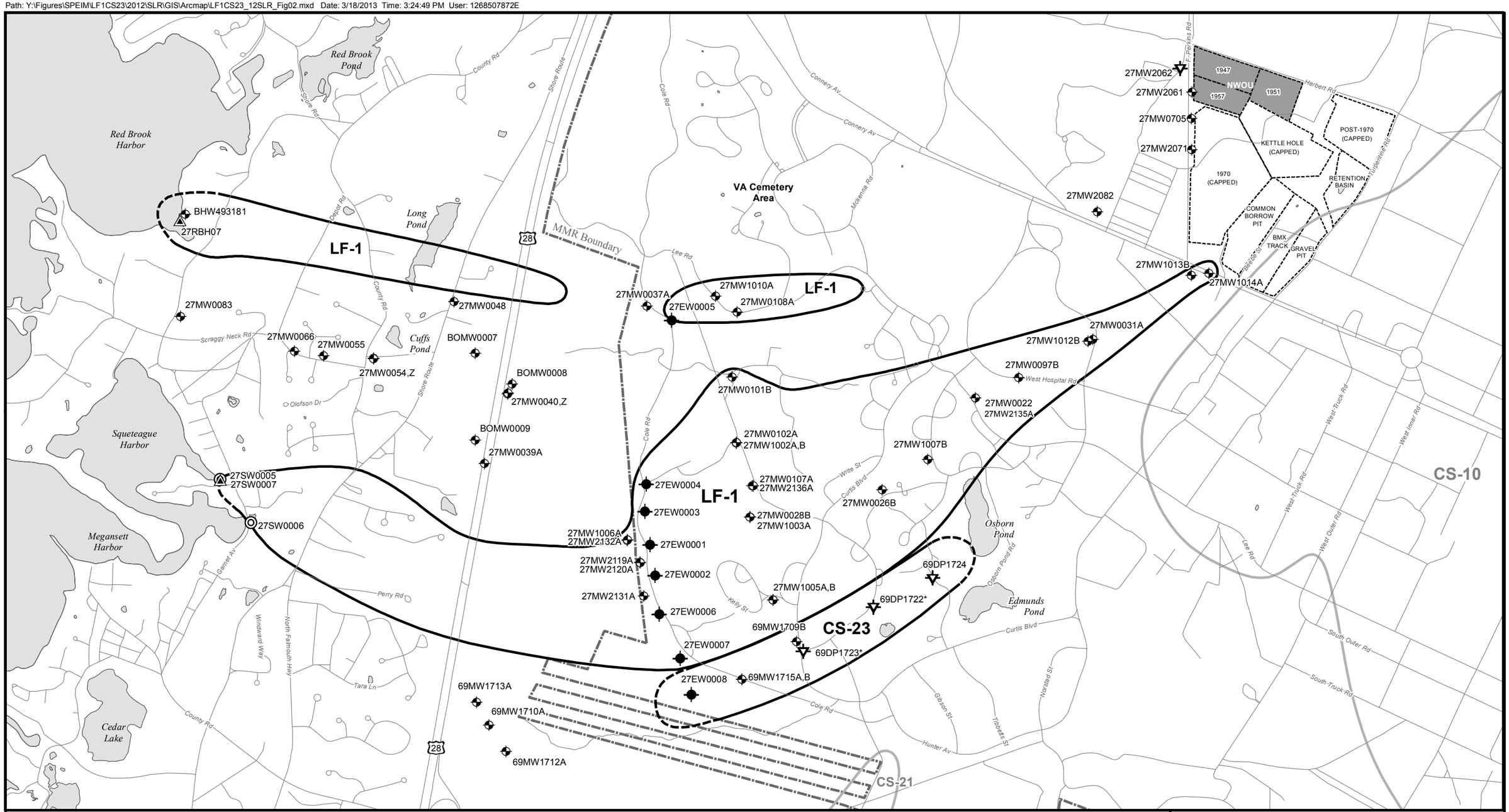
LF-1 AND CS-23 GROUNDWATER PLUMES AND LF-1 AND HUNTER AVENUE TREATMENT SYSTEMS

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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Legend

- Extraction Well
- Monitoring Well
- Direct Push Location
- Seep Location
- Surface Water Sample Location
- LF-1 and CS-23 Plume Boundaries (Dashed Where Inferred)
- Other AFCEE Plume Boundary
- Massachusetts Military Reservation Boundary
- Landfill Boundary
- Northwest Operable Unit (NWOU)

*A monitoring well was installed at this drilling location

Data Source: AFCEC, February 2013, AFCEC-MMR Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011

N

0 825 1,650 Feet

FIGURE 2

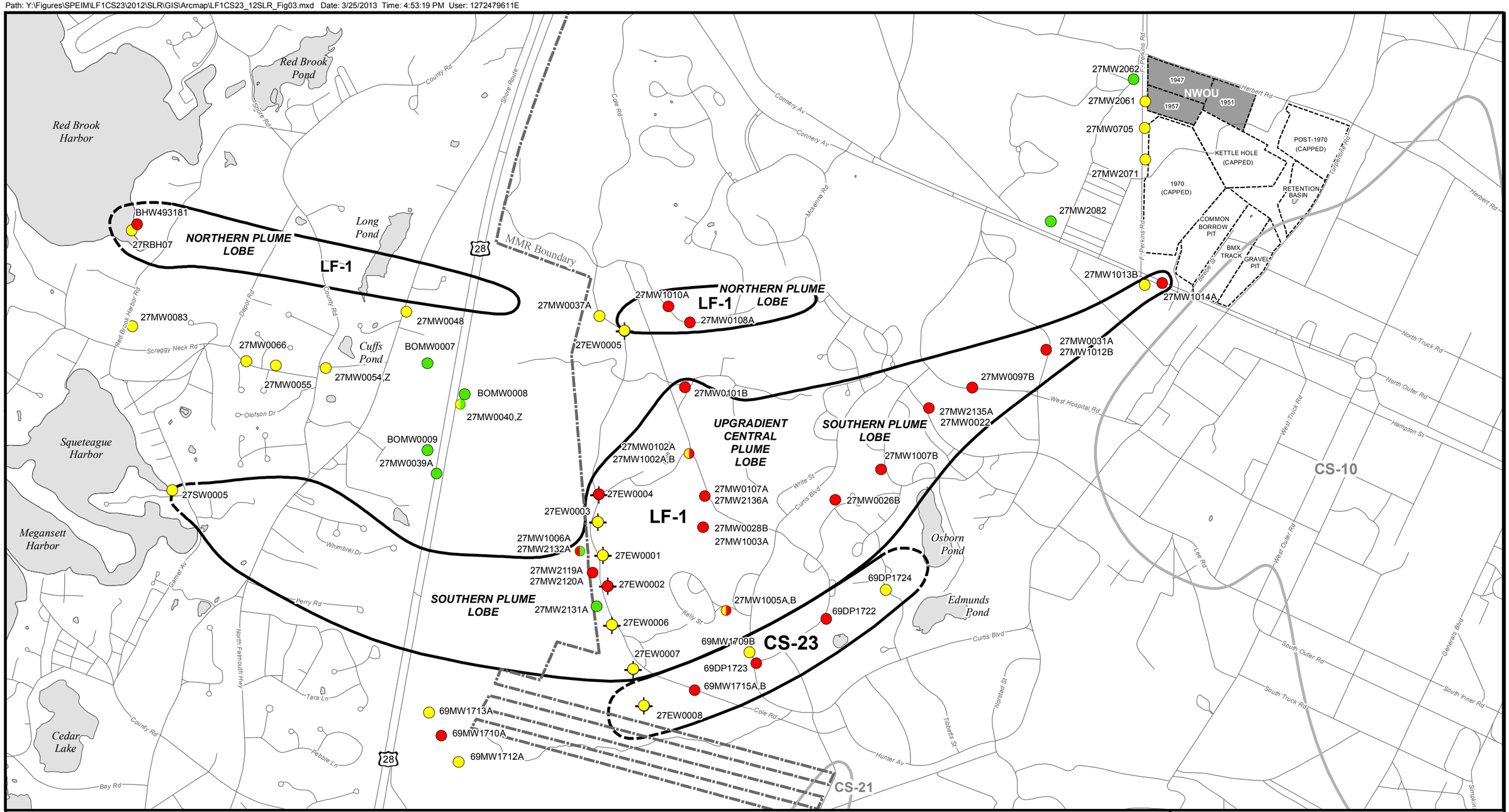
LF-1 AND CS-23 GROUNDWATER, SEEP AND SURFACE WATER MONITORING AND DRILLING LOCATIONS

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

CH2MHILL

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Legend

- Extraction Well
- LF-1 and CS-23 Plume Boundaries (Dashed Where Inferred)
- Other AFCEE Plume Boundary
- Massachusetts Military Reservation Boundary
- Landfill Boundary
- Northwest Operable Unit (NWOU)

Contaminant of Concern (COC) Detections in Groundwater:

- No Detection
- Detection Below or At MCL/MMCL/GW-1
- Detection Above MCL/MMCL/GW-1

Data Source: AFCEC, February 2013, AFCEC-MMR Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011

N

0 810 1,620 Feet

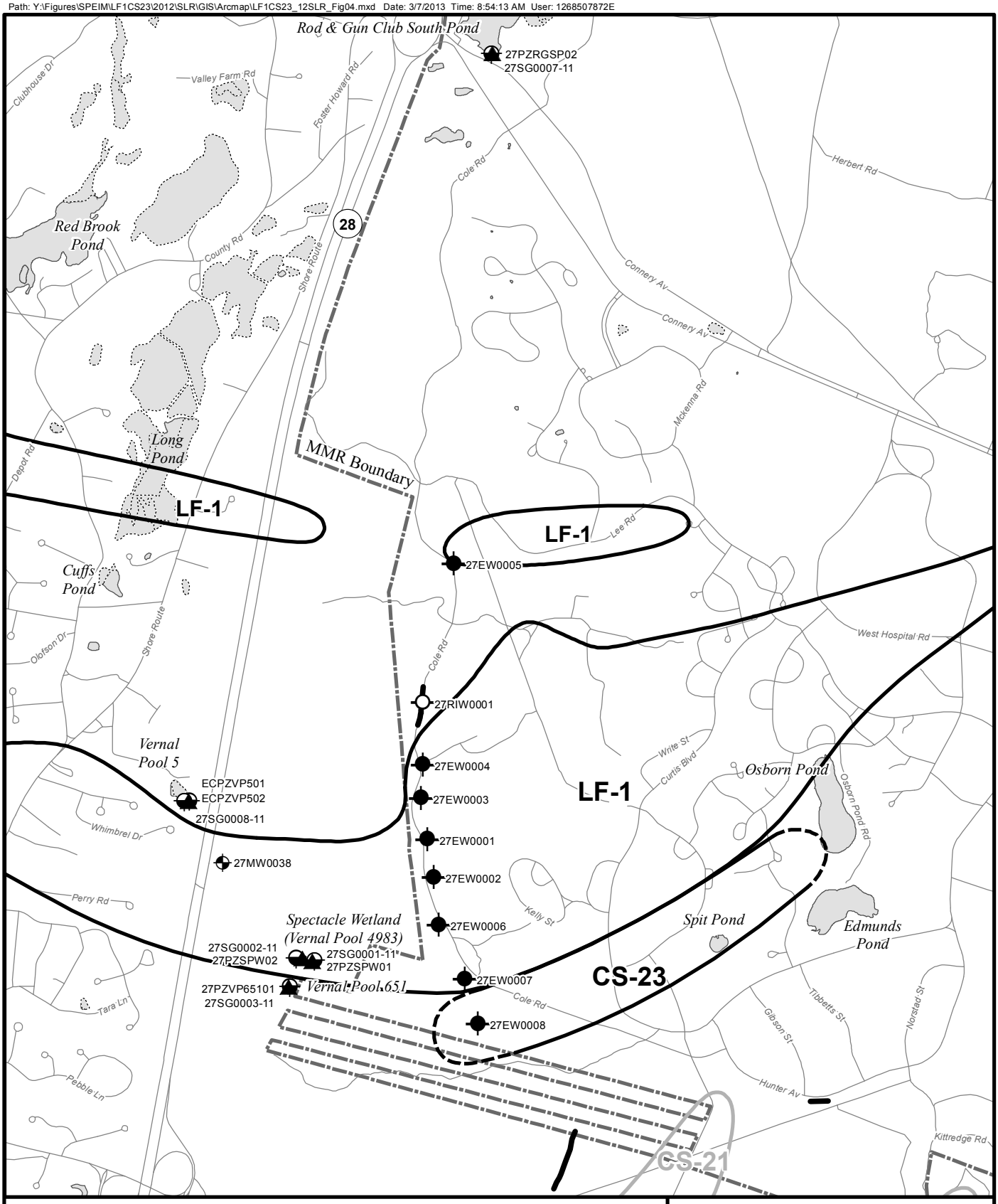
FIGURE 3

LF-1 AND CS-23 2012 COC DETECTIONS IN GROUNDWATER

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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Legend

- Monitoring Well
- Piezometer
- Staff Gauge
- Extraction Well
- Reinjection Well
- Bog/Wetland
- LF-1/CS-23 Plume Boundary (Dashed Where Inferred)
- Other Plume Boundary
- Infiltration Trench
- Massachusetts Military Reservation Boundary

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011

N

0 870 1,740 Feet

FIGURE 4

LF-1 AND CS-23 WETLAND HYDRAULIC MONITORING LOCATIONS

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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TABLES

Table 1
LF-1 and CS-23 Contaminants of Concern and Groundwater Standards
LF-1/CS-23 2012 Summary Letter Report

Plume	COCs	Standard (µg/L)	Type[1,2,3,4]
LF-1	PCE, TCE, CCl_4	5	MCL
	VC	2	MCL
	1,4-DCB	5	MMCL
	1,1,2,2-TeCA	2	GW-1
	EDB	0.02	MMCL
	Mn	300	EPA HA
CS-23	TCE, CCl_4	5	MCL

Notes:
1. MCLs from Environmental Protection Agency (EPA) web page, http://www.epa.gov/safewater/contaminants/index.html
2. MMCLs from Massachusetts Department of Environmental Protection (MassDEP) web page, http://www.mass.gov/dep/water/dwstand.pdf.
3. GW-1 = MassDEP MCP Method 1 Groundwater-1 Standard from MassDEP web page http://www.mass.gov/dep/cleanup/laws/0974_2.htm.
4. EPA HA = Drinking water health advisory for manganese web page: http://www.epa.gov/safewater/ccl/pdfs /reg_determine1/support_cc1_magnese_dwreport.pdf.

Key:

CCl_4 = carbon tetrachloride
COC = contaminant of concern
CS-23 = Chemical Spill-23
DCB = dichlorobenzene
EDB = ethylene dibromide
GW-1 = MCP Method 1 Groundwater-1 standard
HA = Health Advisory
LF-1 = Landfill-1
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MMCL = Massachusetts MCL
Mn = manganese
PCE = tetrachloroethene
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride
µg/L = micrograms per liter

Table 2
LF-1 and CS-23 Well Construction, Staff Gauge, Piezometer, Surface Water, and Seep Sampling Information
LF-1/CS-23 2012 Summary Letter Report

Location	Northing (ft)	Easting (ft)	Surface Elevation (ft msl)	Measuring Point Elevation (ft msl)	Total Well Depth (ft bgs)	Top Screen Elevation (ft msl)	Bottom Screen Elevation (ft msl)	Screen Length (ft)
27EW0001	240594	848163	191	187.91	313	-95.14[1]	-117.14	22
27EW0002	240111	848240	170	166.00	277	-76.10[1]	-102.10	26
27EW0003	241122	848082	178	174.46	304	-60.80[1]	-120.80	60
27EW0004	241553	848101	199	195.60	307	-77.57[1]	-102.57	25
27EW0005	244131	848502	170	167.07	250	-23.88	-74.68	51
27EW0006	239497	848305	171	165.07	283	-58.89	-108.89	50
27EW0007	238805	848639	162	155.85	304	-87.14	-137.14	50
27EW0008	238229	848811	145	138.98	287	-59.99	-139.99	80
27MW0022	242898	853330	128	128.00	173	-39.50	-44.50	5
27MW0026B	241464	851821	108	110.55	210	-97.13	-102.13	5
27MW0028B	241035	849740	115	117.18	137	-16.80	-21.80	5
27MW0031A	243830	855139	131	132.93	199	-63.58	-68.58	5
27MW0037A	244362	848109	180	181.88	218	-33.19	-38.19	5
27MW0038	240292	845537	74	76.58	54	30.58	20.58	10
27MW0039A	241878	845550	97	97.00	145	-42.04	-47.04	5
27MW0040	242977	845919	102	103.88	163	-56.06	-61.06	5
27MW0040Z	242990	845922	102	104.41	268	-161.46	-166.46	5
27MW0048	244428	845071	57	56.24	209	-147.58	-152.58	5
27MW0054	243543	843804	28	27.97	141	-107.64	-112.64	5
27MW0054Z	243534	843805	28	27.36	152	-119.09	-124.09	5
27MW0055	243507	843255	45	45.00	158	-107.99	-112.99	5
27MW0066	243652	842554	32	32.55	162	-124.24	-129.24	5
27MW0083	244132	840640	38	37.20	186	-143.10	-148.10	5
27MW0097B	243238	853974	136	138.84	250	-103.58	-113.08	10
27MW0101B	243242	849456	205	207.62	235	-24.59	-29.59	5
27MW0102A	242200	849517	237	239.29	307	-63.19	-68.19	5
27MW0107A	241525	849769	198	200.72	325	-121.79	-126.79	5
27MW0108A	244263	849536	189	188.20	227	-33.43	-38.43	5
27MW0705	247322	856694	142	144.75	87	68.18	57.98	10
27MW1002A	242204	849523	237	236.58	336	-93.35	-98.27	5
27MW1002B	242204	849524	237	236.60	256	-13.27	-18.20	5
27MW1003A	241033	849737	115	117.01	199	-79.49	-84.49	5
27MW1005A	239731	850099	138	137.51	265	-121.92	-126.76	5
27MW1005B	239731	850099	138	137.48	200	-57.11	-61.93	5
27MW1006A	240665	847800	166	165.55	285	-113.66	-118.59	5
27MW1007B	241943	852540	102	101.46	166	-59.13	-64.13	5
27MW1010A	244512	849194	162	161.30	217	-49.98	-54.98	5
27MW1012B	243802	855063	131	130.03	178	-42.28	-46.84	5
27MW1013B	244850	856692	112	111.68	195	-78.68	-82.98	4
27MW1014A	244879	856967	123	122.74	165	-37.34	-42.34	5
27MW2061	247735	856703	130	132.27	76	63.55	53.55	10
27MW2062	248086	856517	143	142.50	92	56.25	51.25	5
27MW2071	246828	856700	135	137.26	82	63.27	53.27	10
27MW2082	245854	855211	136	137.96	137	4.80	-0.70	6
27MW2119A	240318	848003	161	163.20	273	-106.96	-111.96	5
27MW2120A	240315	848004	161	163.26	238	-71.90	-76.90	5
27MW2131A	239791	848061	166	168.59	276	-103.97	-109.01	5
27MW2132A	240671	847803	166	167.96	194	-23.57	-28.63	5
27MW2135A	242910	853293	129	128.10	205	-71.23	-76.00	5

Table 2
LF-1 and CS-23 Well Construction, Staff Gauge, Piezometer, Surface Water, and Seep Sampling Information
LF-1/CS-23 2012 Summary Letter Report

Location	Northing (ft)	Easting (ft)	Surface Elevation (ft msl)	Measuring Point Elevation (ft msl)	Total Well Depth (ft bgs)	Top Screen Elevation (ft msl)	Bottom Screen Elevation (ft msl)	Screen Length (ft)
27MW2136A	241526	849791	197	199.69	285	-78.02	-87.54	10
27PZRGSP02	250660	848981	49	52.01	2	49.37	47.30	2
27PZSPW01	239041	846716	40	41.22	7	37.56	33.56	4
27PZSPW02	239071	846481	41	41.55	7	37.76	33.76	4
27PZVP65101	238712	846399	37	40.19	3	36.21	34.47	2
27RBH07	245711	840750	N/A	N/A	N/A	N/A	N/A	N/A
27RIW0001	242347	848100	159	153.38	195	37.00	-31.00	68
27SG0001-11	239028	846687	36	N/A	N/A	N/A	N/A	N/A
27SG0002-11	239064	846558	35	N/A	N/A	N/A	N/A	N/A
27SG0003-11	238698	846384	36	N/A	N/A	N/A	N/A	N/A
27SG0007-11	250664	848994	47	N/A	N/A	N/A	N/A	N/A
27SG0008-11	241080	845098	29	N/A	N/A	N/A	N/A	N/A
27SW0005	241623	841386	N/A	N/A	N/A	N/A	N/A	N/A
27SW0006	240943	841874	N/A	N/A	N/A	N/A	N/A	N/A
27SW0007	241623	841386	N/A	N/A	N/A	N/A	N/A	N/A
69DP1722	239594	851681	103	N/A	N/A	N/A	N/A	N/A
69DP1723	238892	850577	124	N/A	N/A	N/A	N/A	N/A
69DP1724	240049	852616	111	N/A	N/A	N/A	N/A	N/A
69MW1709B	239069	850471	130	129.86	160	-24.43	-29.06	5
69MW1710A	237755	845622	82	81.85	205	-118.01	-122.81	5
69MW1712A	237338	845891	66	65.79	224	-152.53	-157.33	5
69MW1713A	238117	845426	53	52.51	165	-106.35	-110.99	5
69MW1715A	238469	849609	117	116.56	255	-132.32	-137.19	5
69MW1715B	238469	849609	117	116.53	174	-51.89	-56.76	5
69MW1722A	239594	851681	103	102.50	201	-92.55	-97.55	5
69MW1723A	238892	850577	124	123.50	181	-51.55	-56.55	5
BHW493181	245805	840838	5	4.84	181	-174.47	-176.44	2
BOMW0007	243618	845404	77	78.46	92	52.41	-15.19	68
BOMW0008	243129	845987	91	93.03	93	63.04	-1.16	64
BOMW0009	242251	845405	97	98.33	111	44.29	-14.21	59
ECPZVP501	241086	845107	29	31.06	7	26.66	22.66	4
ECPZVP502	241085	845047	31	31.54	7	27.74	23.74	4

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse

Notes:

[1] Packer installed in 27EW0001 well screen from -72.14 to -95.14 ft msl.

[2] Packer installed in 27EW0002 well screen from -56.10 to -76.10 ft msl.

[3] Packer installed in 27EW0003 well screen from -40.80 to -60.80 ft msl.

[4] Packer installed in 27EW0004 well screen from -62.57 to -77.57 ft msl.

Key:

bgs = below ground surface
LF-1 = Landfill-1
CS-23 = Chemical Spill-23
msl = mean sea level
ft = feet
N/A = not applicable

Table 3
LF-1 Groundwater, Seep, and Surface Water Monitoring Results
LF-1/CS-23 2012 Summary Letter Report

Location	Date	Laboratory Analyses							Water Quality Parameters					
		PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	EDB (µg/L) MMCL = 0.02	Temp (°C)	pH (std)	DO (mg/L)	SpC (µS/cm)	ORP (mV)	Turbidity (NTU)
Extraction Well Results														
27EW0001	1/12/2012	3.7	4.9	1.2	1.5	ND	1.7	NS	10.03	6.18	4.39	196	145.5	0.2
27EW0001	7/5/2012	3.5	4.6	BRL	1.4	ND	1.6	NS	12.36	6.1	7.09	197	-107.7	21.9
27EW0002	1/12/2012	3.6	**8.4**	BRL	2.6	BRL	BRL	ND	10.01	5.95	6.53	154	173.6	3.5
27EW0002	4/18/2012	3.4	**7.4**	ND	2.1	BRL	BRL	**0.034J**	11.82	6.28	6.97	154	114.3	7.8
27EW0002	7/5/2012	3.5	**7.6**	BRL	2.6	ND	BRL	0.012	12.35	6.17	9.04	162	-106.7	18.8
27EW0002	10/3/2012	3.5	**7.3**	BRL	2.5	ND	BRL	0.012	12.42	6.48	11.03	73	152.7	0.2
27EW0003	1/12/2012	3.4	3.1	1.5	ND	ND	3	NS	9.81	5.98	6.5	188	139.4	10.6
27EW0003	7/5/2012	3.6	3.3	BRL	ND	ND	3.2	NS	12.48	6.18	7.37	191	-108	24.2
27EW0004	1/12/2012	**5.9**	1.5	BRL	ND	ND	BRL	NS	10.04	6.2	2.3	180	135.5	0.2
27EW0004	7/5/2012	**5.5**	1.5	BRL	ND	ND	1.1	NS	14.24	6.53	3	187	-115.1	20.7
27EW0005	1/12/2012	BRL	3.3	ND	ND	BRL	ND	NS	9.95	5.99	9.64	131	176.3	1.0
27EW0005	7/20/2012	BRL	1.6	ND	ND	ND	ND	NS	11.94	6.8	10.51	126	-55	18.0
27EW0006	1/12/2012	4.3	2.6	ND	2.6	ND	ND	ND	10.84	5.95	8.8	161	177.4	0.6
27EW0006	4/18/2012	3.9	2.3	ND	2	ND	ND	**0.026J**	12.73	6.02	7.79	159	109.4	8.6
27EW0006	7/5/2012	4.1	2.6	BRL	2.3	ND	ND	BRL	13.23	6.1	9.27	164	-104.5	19.3
27EW0006	10/3/2012	3.4	2.3	ND	1.9	ND	ND	BRL	13.09	6.47	11.69	119	143.6	1.8
Monitoring Well Results														
27MW0022	6/5/2012	**6.2**	**23**	BRL	BRL	ND	1.4	NS	12.95	6.29	0.45	153	48.9	1.2
27MW0026B	6/5/2012	**6.9**	4.2	ND	2.2	ND	ND	NS	12.68	5.81	4.63	115	141.4	1.6
27MW0028B	6/4/2012	3.3	**21**	ND	1	ND	ND	NS	--	--	--	--	--	--
27MW0031A	5/30/2012	4.7	**14**	BRL	ND	ND	2.7	NS	--	--	--	--	--	--
27MW0037A	6/6/2012	BRL	ND	ND	ND	ND	ND	NS	16.34	5.68	7.52	61	193.2	0.0
27MW0039A	9/4/2012	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
27MW0040	9/4/2012	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
27MW0040Z	6/22/2012	2.6	BRL	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW0048	5/30/2012	2	2.5	ND	ND	BRL	ND	NS	--	--	--	--	--	--
27MW0054	6/8/2012	2.6	1.6	ND	ND	ND	ND	NS	12.93	5.92	7.66	93	191.3	0.7
27MW0054Z	6/8/2012	3.2	2.7	ND	ND	ND	ND	NS	14.68	6.16	6.43	98	185.2	1.0
27MW0055	6/29/2012	3.5	1.6	ND	ND	BRL	ND	NS	13.59	6.02	9.22	103	-78.5	4.3
27MW0066	6/22/2012	3.4	3.9	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW0083	7/12/2012	1.9	4	ND	ND	BRL	ND	NS	14.8	6.12	9.32	107	10.2	5.1
27MW0097B	5/30/2012	4.1	**7.5**	BRL	ND	ND	BRL	NS	--	--	--	--	--	--
27MW0101B	6/4/2012	**5.2**	BRL	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW0102A	6/4/2012	3.1	1.1	ND	ND	ND	1.5	NS	--	--	--	--	--	--
27MW0107A	6/4/2012	**5.8**	4.2	1.7	1.1	ND	3.4	NS	--	--	--	--	--	--
27MW0108A	6/22/2012	BRL	**11**	ND	ND	BRL	ND	NS	--	--	--	--	--	--
27MW0705	6/22/2012	ND	ND	ND	BRL	ND	ND	NS	--	--	--	--	--	--
27MW1002A	6/4/2012	**6.2**	1.2	BRL	ND	ND	2.7	NS	--	--	--	--	--	--
27MW1002B	6/4/2012	4.6	1	1.1	ND	ND	5	NS	--	--	--	--	--	--
27MW1003A	6/4/2012	3.8	**21**	ND	1	ND	BRL	NS	--	--	--	--	--	--
27MW1005A	6/4/2012	**12**	3.4	ND	**6.3**	ND	ND	NS	--	--	--	--	--	--
27MW1005B	6/4/2012	1	BRL	ND	BRL	ND	ND	NS	--	--	--	--	--	--
27MW1006A	6/1/2012	4.8	4.3	**2.1**	ND	ND	**8**	NS	--	--	--	--	--	--

Table 3
LF-1 Groundwater, Seep, and Surface Water Monitoring Results
LF-1/CS-23 2012 Summary Letter Report

Location	Date	Laboratory Analyses							Water Quality Parameters					
		PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	EDB (µg/L) MMCL = 0.02	Temp (^oC)	pH (std)	DO (mg/L)	SpC (µS/cm)	ORP (mV)	Turbidity (NTU)
27MW1007B	6/6/2012	**11**	4.8	ND	**7.2**	ND	ND	NS	12.27	5.78	2.34	91	203.6	1.0
27MW1010A	6/22/2012	ND	**5.3**	ND	ND	BRL	ND	NS	--	--	--	--	--	--
27MW1012B	5/30/2012	**8.4**	**25**	1	ND	ND	1.8	NS	--	--	--	--	--	--
27MW1013B	5/30/2012	2.8	1.6	BRL	BRL	ND	4.3	NS	--	--	--	--	--	--
27MW1014A	6/12/2012	ND	BRL	1.5	ND	ND	**6.2**	NS	13.75	6.05	1.35	254	-87.7	11.9
27MW2061	6/22/2012	BRL	ND	ND	1.6	ND	ND	NS	--	--	--	--	--	--
27MW2071	6/14/2012	ND	4.1	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW2082	6/14/2012	ND	ND	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW2119A	6/6/2012	**7.1**	**12**	1.1	4.7	ND	1.4	NS	13.36	6.26	0.82	160	110.8	1.0
27MW2120A	6/1/2012	BRL	**6.1**	ND	BRL	ND	ND	NS	--	--	--	--	--	--
27MW2131A	6/1/2012	ND	ND	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW2132A	6/1/2012	ND	ND	ND	ND	ND	ND	NS	--	--	--	--	--	--
27MW2135A	6/14/2012	**28**	**88**	ND	ND	BRL	ND	NS	--	--	--	--	--	--
27MW2136A	6/4/2012	**9.1**	**10**	**3.2**	BRL	ND	**5.5**	NS	--	--	--	--	--	--
BHW493181	5/30/2012	1.5	**6.2**	ND	ND	2	ND	NS	--	--	--	--	--	--
BOMW0007	9/4/2012	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
BOMW0008	9/4/2012	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
BOMW0009	9/4/2012	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
Seep Results														
27RBH07	4/5/2012	ND	BRL	ND	ND	ND	ND	NS	10.36	6.2	6.04	129	-75.9	0.8
27SW0005	4/5/2012	2.7	BRL	ND	BRL	ND	ND	NS	10.73	7.1	6.55	137	-60.7	0.7

Location	Date	Laboratory Analyses							Water Quality Parameters					
		PCE (µg/L) AWQC = 1,100	TCE (µg/L) AWQC = 190	VC (µg/L) AWQC = 41,000	CCl_4 (µg/L) AWQC = 200	1,1,2,2-TeCA (µg/L) AWQC = 4,000	1,4-DCB (µg/L) AWQC = 310	EDB (µg/L)	Temp (^oC)	pH (std)	DO (mg/L)	SpC (µS/cm)	ORP (mV)	Turbidity (NTU)
Surface Water Results														
27SW0006	4/5/2012	BRL	BRL	ND	ND	ND	ND	NS	10.37	7.3	7.79	36503	-55.6	2.5
27SW0007	4/5/2012	ND	ND	ND	ND	ND	ND	NS	10.96	7.45	7.77	41271	-62	32.8

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Notes:

BOLD values indicate an MCL, MMCL, or MCP GW-1 exceedance.

MCLs, MMCLs and MCP GW-1 standards included in table 1. AWQC standards from 310 CMR 40.1516(1) at MassDEP web page http://www.mass.gov/dep/cleanup/laws/nrs07.pdf.

--: Sample collected through use of passive sampling device; water quality parameter collection not performed.

Key:

AWQC = MassDEP Ambient Water Quality Criteria
BRL = below the reporting limit
^oC = degrees Celsius
CCl_4 = carbon tetrachloride
CS-23 = Chemical Spill-23
DCB = dichlorobenzene
DO = dissolved oxygen
EDB = ethylene dibromide
GW-1 = MCP Method 1 Groundwater-1 standard
J = estimated
LF-1 = Landfill-1
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
mg/L = milligrams per liter
MMCL = Massachusetts MCL
mV = millivolts
ND = not detected
NS = not sampled
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
PCE = tetrachloroethene
seep = groundwater discharge sample
SpC = specific conductance
std = standard units
TCE = trichloroethene
TeCA = tetrachloroethane
Temp = temperature
VC = vinyl chloride
VOC = volatile organic compound
µg/L = micrograms per liter
µS/cm = microsiemens per centimeter

Table 4
CS-23 Groundwater Monitoring Results
LF-1/CS-23 2012 Summary Letter Report

Location	Date			Water Quality Parameters					
		TCE (µg/L) MCL = 5	CCl_4 (µg/L) MCL = 5	Temp (^oC)	pH (std)	DO (mg/L)	SpC (µS/cm)	ORP (mV)	Turbidity (NTU)
Extraction Well Results									
27EW0007	1/12/2012	3.3	2	10.76	6.21	7.55	109	151.6	0.6
27EW0007	4/18/2012	3.1	1.8	12.25	6.29	6.46	113	106.1	8.6
27EW0007	7/5/2012	3.2	2.2	12.88	6.2	7.96	118	-108.5	25.9
27EW0007	10/3/2012	3	2.4	12.88	6.68	10.29	102	147.2	0
27EW0008	1/12/2012	4.3	ND	10.76	6.13	7.09	116	176	0
27EW0008	4/18/2012	3.8	ND	11.66	6.22	6.08	122	128.2	8.8
27EW0008	7/5/2012	4.1	ND	12.54	6.26	8.39	128	-109	19.9
27EW0008	10/3/2012	3.1	ND	12.52	6.79	10.49	110	150.5	0
Monitoring Well Results									
69MW1709B	6/1/2012	2.3	ND	--	--	--	--	--	--
69MW1710A	5/30/2012	**12**	1.6	--	--	--	--	--	--
69MW1712A	5/30/2012	BRL	ND	--	--	--	--	--	--
69MW1713A	5/30/2012	1.8	BRL	--	--	--	--	--	--
69MW1715A	6/1/2012	**6.5**	BRL	--	--	--	--	--	--
69MW1715B	6/1/2012	**11**	BRL	--	--	--	--	--	--

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Notes:
BOLD values indicate an MCL exceedance.
--: Sample collected through use of passive diffusion bag sampler; water quality parameter collection not performed.

Key:

BRL = below the reporting limit	mg/L = milligrams per liter	std = standard units
^oC = degrees Celsius	mV = millivolts	TCE = trichloroethene
CCl_4 = carbon tetrachloride	ND = not detected	Temp = temperature
CS-23 = Chemical Spill-23	NTU = nephelometric turbidity units	VOC = volatile organic compound
DO = dissolved oxygen	ORP = oxidation-reduction potential	µg/L = micrograms per liter
MCL = Maximum Contaminant Level	SpC = specific conductance	µS/cm = microsiemens per centimeter

Table 5
LF-1/CS-23 Meeting Presentations
LF-1/CS-23 2012 Summary Letter Report

Technical Update Meetings

26 January 2012	LF-1 2011 Post-Closure Monitoring Plan Overview
26 January 2012	LF-1/CS-23 2011 Triennial SPEIM Data Presentation Follow Up
20 June 2012	LF-1 PEST Project Note Follow Up
28 August 2012	LF-1 PEST Project Note Follow Up
28 August 2012	CS-23 Direct Push Results
27 September 2012	LF-1 PEST Project Note Discussion
27 September 2012	CS-23 Direct Push Results Follow Up
27 September 2012	LF-1/CS-23 2012 Annual SPEIM Data Presentation
28 November 2012	LF-1/CS-23 2012 Annual SPEIM Data Presentation Follow Up
28 November 2012	LF-1 PEST Project Note Resolution Meeting
28 November 2012	LF-1/CS-23 LUC 2-Year Check-in Project Note

MMR Cleanup Team (MMRCT)

No presentations

SMB Meetings

No presentations

Conference

No presentations

Table 6
LF-1 Treatment Plant Sampling Results
LF-1/CS-23 2012 Summary Letter Report

Month of Event	Sample Date	Location Identification	Sample Location	Laboratory Analyses						Water Quality Parameters					
				PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	Temp (°C)	SpC (µS/cm)	DO (mg/L)	pH (std)	ORP (mV)	Turbidity (NTU)
Carbon was replaced in vessel 101B on 24 January 2012. Following carbon replacement, vessel 101A was aligned as lead and CF101B as the lag.															
February	30-Jan-12	27PLT01001	Influent	3.2	3.1	BRL	BRL	BRL	1.3	--	--	--	--	--	--
		27PLT01002	Post-101A	ND	BRL	BRL	ND	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
March	27-Feb-12	27PLT01001	Influent	3.3	3.1	ND	BRL	BRL	1.1	--	--	--	--	--	--
		27PLT01002	Post-101A	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
April	27-Mar-12	27PLT01001	Influent	3.3	3.1	BRL	BRL	BRL	1.5	--	--	--	--	--	--
		27PLT01002	Post-101A	BRL	1.3	BRL	BRL	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
Carbon was replaced in vessel 101A on 19 April 2012. Following carbon replacement, vessel 101B was aligned as lead and CF101A as the lag.															
May	26-Apr-12	27PLT01001	Influent	3.0	3.0	BRL	BRL	BRL	1.2	--	--	--	--	--	--
		27PLT01003	Post-101B	ND	ND	BRL	ND	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
June	29-May-12	27PLT01001	Influent	2.9	2.8	BRL	BRL	BRL	1.3	10.83	150	4.83	6.02	210.9	0.0
		27PLT01003	Post-101B	ND	BRL	ND	ND	ND	ND	10.87	153	6.21	6.03	261.9	0.0
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	10.91	153	2.24	5.95	245.8	0.0
July	26-Jun-12	27PLT01001	Influent	3.4	2.9	BRL	BRL	BRL	1.6	--	--	--	--	--	--
		27PLT01003	Post-101B	ND	BRL	ND	ND	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
August	18-Jul-12	27PLT01001	Influent	4.2	3.2	BRL	BRL	BRL	1.9	--	--	--	--	--	--
		27PLT01003	Post-101B	BRL	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
September	28-Aug-12	27PLT01001	Influent	3.0	3.4	BRL	BRL	BRL	1.4	--	--	--	--	--	--
		27PLT01003	Post-101B	BRL	RL	ND	BRL	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
October	27-Sep-12	27PLT01001	Influent	2.7	3.3	BRL	BRL	ND	1.4	--	--	--	--	--	--
		27PLT01003	Post-101B	BRL	1.1	ND	BRL	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
Carbon was replaced in vessel 101B on 06 November 2012. Following carbon replacement, vessel 101A was aligned as lead and CF101B as the lag. Note: virgin coconut carbon was used in vessel 101B as part of an optimization evaluation.															
November	31-Oct-12	27PLT01001	Influent	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
		27PLT01002	Post-101A	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
		27PLT01004	Effluent	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--

Table 6
LF-1 Treatment Plant Sampling Results
LF-1/CS-23 2012 Summary Letter Report

Month of Event	Sample Date	Location Identification	Sample Location	Laboratory Analyses						Water Quality Parameters					
				PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	Temp (^oC)	SpC (µS/cm)	DO (mg/L)	pH (std)	ORP (mV)	Turbidity (NTU)
December	28-Nov-12	27PLT01001	Influent	2.7	3.1	BRL	BRL	BRL	1.3	10.48	131	6.05	6.16	206.0	0.0
		27PLT01002	Post-101A	ND	ND	ND	BRL	ND	ND	10.49	135	6.12	6.21	208.5	0.0
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	10.51	134	5.17	6.23	200.0	0.1
January	26-Dec-12	27PLT01001	Influent	2.5	3.2	BRL	BRL	ND	1.3	--	--	--	--	--	--
		27PLT01002	Post-101A	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		27PLT01004	Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Notes:

Water quality parameters (pH, temperature, DO, SpC, turbidity, and ORP) are measured semiannually at influent, post-GAC at each GAC vessel, and plant effluent sampling locations. The measurements are collected using a flow-through cell and the Yellow Springs Instrument (YSI).

--: Water quality parameters were not collected.

Key:

BRL = below reporting limit
^oC = degrees Celsius
CCl_4 = carbon tetrachloride
DCB = dichlorobenzene
DO = dissolved oxygen
GW-1 = MCP Method 1 Groundwater-1 standard
LF-1 = Landfill-1
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
mg/L = milligrams per liter
MMCL = Massachusetts MCL
mV = millivolts
ND = not detected
NS = not sampled due to carbon changeout
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
PCE = tetrachloroethene
SpC = specific conductance
std = standard units
TCE = trichloroethene
TeCA = tetrachloroethane
Temp = temperature
VC = vinyl chloride
µg/L = micrograms per liter
µS/cm = microsiemens per centimeter

Table 7
Hunter Avenue Treatment Facility (LF-1/CS-23) Sampling Results
LF-1/CS-23 2012 Summary Letter Report

Month of Event	Sample Date	Location Identification	Sample Location	Laboratory Analyses						Field Parameters					
				PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	Temp (^oC)	SpC (µS/cm)	DO (mg/L)	pH (std)	ORP (mV)	Turbidity (NTU)
February	31-Jan-12	85PLT01004	LF-1/CS-23 Influent	3.7	4.0	ND	2.0	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lead	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200Alag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
March	27-Feb-12	85PLT01004	LF-1/CS-23 Influent	3.6	4.0	ND	2.0	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lead	ND	BRL	ND	1.3	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200Alag	ND	BRL	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
Carbon was exchanged out of CF3100B on 20 March 2012. Following the exchange CF3100A was aligned as the lead and CF3100B was aligned as the lag.															
April	27-Mar-12	85PLT01004	LF-1/CS-23 Influent	3.4	3.9	ND	1.9	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lead	ND	ND	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	ND	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200Alag	ND	BRL	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
May	26-Apr-12	85PLT01004	LF-1/CS-23 Influent	3.3	3.9	ND	1.8	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lead	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	ND	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200Alag	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
June	29-May-12	85PLT01004	LF-1/CS-23 Influent	3.8	3.5	ND	2.3	ND	ND	10.98	128	9.53	5.97	192.1	0.0
		85PLT03101	GAC3100A lead	ND	BRL	ND	1.2	ND	ND	11.00	128	7.59	5.95	198.7	0.0
		85PLT03102	GAC3100B lag	ND	ND	ND	BRL	ND	ND	11.02	128	9.11	5.97	198.2	0.0
		85PLT03202	GAC3200B lead	ND	ND	ND	BRL	ND	ND	11.02	128	9.27	5.96	199.5	0.2
		85PLT03201	GAC3200Alag	ND	BRL	ND	BRL	ND	ND	11.03	128	6.63	5.96	194.7	0.0
		85PLT01005	LF-1/CS-23 Effluent	ND	BRL	ND	BRL	ND	ND	11.04	128	8.38	5.97	170.4	0.0
Carbon was exchanged out of CF3100A on 22 June 2012. Following the exchange CF3100B was aligned as the lead and CF3100A was aligned as the lag.															

Table 7
Hunter Avenue Treatment Facility (LF-1/CS-23) Sampling Results
LF-1/CS-23 2012 Summary Letter Report

Month of Event	Sample Date	Location Identification	Sample Location	Laboratory Analyses						Field Parameters					
				PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	Temp (^oC)	SpC (µS/cm)	DO (mg/L)	pH (std)	ORP (mV)	Turbidity (NTU)
July	26-Jun-12	85PLT01004	LF-1/CS-23 Influent	3.2	3.6	ND	2.0	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lead	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	BRL	ND	1.0	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200Alag	ND	BRL	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
Carbon was exchanged out of CF3100B on 27 July 2012. Following the exchange CF3100A was aligned as the lead and CF3100B was aligned as the lag.															
August	18-Jul-12	85PLT01004	LF-1/CS-23 Influent	3.1	4.2	ND	1.7	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lead	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200A lead	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
		85PLT03202	GAC3200B lag	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
September	28-Aug-12	85PLT01004	LF-1/CS-23 Influent	3.5	4.2	ND	1.9	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lead	BRL	1.1	ND	1.3	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lag	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200A lead	BRL	1.2	ND	1.4	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	BRL	ND	ND	--	--	--	--	--	--
Carbon was exchanged out of CF3100B on 21 September 2012. Following the exchange CF3100A was aligned as the lead and CF3100B was aligned as the lag. Note: virgin coconut carbon was used in vessel 101B as part of an optimization evaluation.															
Carbon was exchanged out of CF3200A on 26 September 2012. Following the exchange CF3200B was aligned as the lead and CF3200A was aligned as the lag. Note: virgin coconut carbon was used in vessel 101B as part of an optimization evaluation.															
October	27-Sep-12	85PLT01004	LF-1/CS-23 Influent	3.3	3.8	ND	1.9	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lead	ND	BRL	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	ND	ND	BRL	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200A lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
November	25-Oct-12	85PLT01004	LF-1/CS-23 Influent	2.6	3.7	ND	1.8	ND	ND	--	--	--	--	--	--
		85PLT03101	GAC3100A lead	ND	BRL	ND	1.2	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03202	GAC3200B lead	ND	BRL	ND	1.1	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200A lag	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--

Table 7
Hunter Avenue Treatment Facility (LF-1/CS-23) Sampling Results
LF-1/CS-23 2012 Summary Letter Report

Month of Event	Sample Date	Location Identification	Sample Location	Laboratory Analyses						Field Parameters					
				PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5	Temp (^oC)	SpC (µS/cm)	DO (mg/L)	pH (std)	ORP (mV)	Turbidity (NTU)
December	28-Nov-12	85PLT01004	LF-1/CS-23 Influent	3.4	3.9	ND	1.8	ND	ND	10.99	129	10.87	6.93	197.4	0.1
		85PLT03102	GAC3100B lead	ND	ND	ND	ND	ND	ND	10.99	128	6.1	6.91	202.2	0.1
		85PLT03201	GAC3200A lead	ND	ND	ND	ND	ND	ND	11.01	128	6.18	6.90	199.8	0.0
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	11.00	128	4.45	6.89	178.2	0.1
January	26-Dec-12	85PLT01004	LF-1/CS-23 Influent	2.8	3.6	ND	2.1	ND	ND	--	--	--	--	--	--
		85PLT03102	GAC3100B lead	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT03201	GAC3200A lead	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
		85PLT01005	LF-1/CS-23 Effluent	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Notes:

Water quality parameters (pH, temperature, DO, SpC, turbidity, and ORP) are measured semiannually at influent, post-GAC at each active GAC vessel, and plant effluent sampling locations. The measurements are taken using a flow-through cell and the Yellow Springs Instrument (YSI).

--: Water quality parameters were not collected.

Key:

BRL = below reporting limit
^oC = degrees Celsius
CCl_4 = carbon tetrachloride
CS-23 = Chemical Spill-23
1,4-DCB = dichlorobenzene
DO = dissolved oxygen
GW-1 = MCP Method 1 Groundwater-1 standard
LF-1 = Landfill-1
mg/L = milligrams per liter
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MMCL = Massachusetts MCL
mV = millivolts
ND = not detected
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
PCE = tetrachloroethene
SpC = specific conductance
std = standard units
Temp = temperature
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride
µg/L = micrograms per liter
µS/cm = microsiemens per centimeter

Table 8
LF-1 and CS-23 Treatment System Flow Rates
LF-1/CS-23 2012 Summary Letter Report

Week Ending	LF-1 EWs				LF-1 Plant Influent Flow Average (gpm)	Effluent Flow to 27RIW0001[1] (gpm)	Effluent Flow to LF-1 Infiltration Gallery and Trenches (gpm)	LF-1 EWs		CS-23 EWs		Hunter Ave. Plant Influent Average (gpm)	Estimated Effluent Flow to East Trench[2] (gpm)	Estimated Effluent Flow to West Trench[2] (gpm)
	27EW0001 (gpm)	27EW0003 (gpm)	27EW0004 (gpm)	27EW0005 (gpm)				27EW0002 (gpm)	27EW0006 (gpm)	27EW0007 (gpm)	27EW0008 (gpm)			
2011 Scenario 01 (PEST flow rates)														
7-Jan-12	115	97	98	121	432	183	183	198	538	151	184	1070	514	557
14-Jan-12	129	116	115	136	496	215	215	197	538	151	183	1069	513	556
21-Jan-12	122	120	111	133	487	211	211	191	16	151	184	542	260	282
28-Jan-12	96	97	92	106	391	163	163	175	52	135	165	527	253	274
4-Feb-12	126	127	129	144	526	231	231	161	436	122	149	869	417	452
11-Feb-12	124	124	125	138	511	223	223	198	538	151	184	1070	514	557
18-Feb-12	123	122	123	136	504	219	219	197	538	151	183	1070	514	556
25-Feb-12	121	122	124	137	504	220	220	191	518	146	177	1032	495	536
3-Mar-12	121	121	123	136	501	218	218	198	538	151	184	1071	514	557
10-Mar-12	121	118	124	139	502	219	219	197	538	151	183	1070	513	556
17-Mar-12	119	113	122	139	494	215	215	198	538	151	184	1071	514	557
24-Mar-12	119	112	119	137	487	211	211	165	538	151	154	1007	484	524
31-Mar-12	124	128	114	134	500	217	217	198	538	151	184	1070	514	557
7-Apr-12	123	41	116	139	420	177	177	198	538	151	184	1071	514	557
14-Apr-12	120	0	118	143	381	158	158	198	537	151	184	1069	513	556
21-Apr-12	100	31	98	119	348	141	141	196	538	151	184	1068	513	556
28-Apr-12	117	128	118	120	483	209	209	170	461	129	158	918	440	477
5-May-12	118	133	35	123	410	172	172	153	417	117	142	829	398	431
12-May-12	113	130	0	147	390	162	162	190	365	145	137	836	401	435
19-May-12	109	129	0	125	363	149	149	190	465	145	0	799	383	415
26-May-12	107	128	68	141	444	189	189	190	515	145	0	850	408	442
2-Jun-12	102	123	124	135	484	210	210	190	404	145	115	853	410	444
9-Jun-12	101	122	126	137	486	211	211	190	412	145	176	923	443	480
16-Jun-12	115	118	123	133	490	212	212	189	515	145	176	1025	492	533
23-Jun-12	122	117	123	134	495	215	215	190	387	145	176	898	431	467
30-Jun-12	117	108	116	49	391	163	163	190	349	127	155	820	394	427
7-Jul-12	139	119	130	0	388	162	162	190	450	297	303	1240	595	645
14-Jul-12	125	108	116	0	349	142	142	155	392	302	302	1151	553	599
21-Jul-12	124	106	115	56	402	169	169	163	397	306	306	1172	562	609
Average Flow Rate (gpm)	**118**	**109**	**105**	**119**	**450**	**193**	**193**	**186**	**448**	**161**	**172**	**968**	**464**	**503**
Optimized Flow Rate (gpm) (2011 Scenario 01)	**127**	**126**	**129**	**143**	**525**	**N/A[3]**	**N/A[3]**	**198**	**538**	**151**	**184**	**1071**	**N/A**	**N/A**
Percent of Optimized Design Rate	**93**	**86**	**81**	**83**	**86**	**N/A**	**N/A**	**94**	**83**	**106**	**94**	**90**	**N/A**	**N/A**
2012 Scenario 01														
28-Jul-12	131	140	90	174	535	235	235	120	343	227	307	998	479	519
4-Aug-12	36	161	77	206	480	207	207	179	335	269	335	1119	537	582
11-Aug-12	0	157	73	203	434	184	184	75	309	308	308	1000	480	520
18-Aug-12	42	156	75	203	476	205	205	0	335	335	335	1006	483	523

Table 8
LF-1 and CS-23 Treatment System Flow Rates
LF-1/CS-23 2012 Summary Letter Report

Week Ending	LF-1 EWs				LF-1 Plant Influent Flow Average (gpm)	Effluent Flow to 27RIW0001[1] (gpm)	Effluent Flow to LF-1 Infiltration Gallery and Trenches (gpm)	LF-1 EWs		CS-23 EWs		Hunter Ave. Plant Influent Average (gpm)	Estimated Effluent Flow to East Trench[2] (gpm)	Estimated Effluent Flow to West Trench[2] (gpm)
	27EW0001 (gpm)	27EW0003 (gpm)	27EW0004 (gpm)	27EW0005 (gpm)				27EW0002 (gpm)	27EW0006 (gpm)	27EW0007 (gpm)	27EW0008 (gpm)			
25-Aug-12	148	149	67	194	559	247	247	106	320	319	319	1063	510	553
1-Sep-12	147	150	64	196	557	246	246	244	334	334	335	1246	598	648
8-Sep-12	146	146	61	193	546	240	240	208	290	290	290	1077	517	560
15-Sep-12	73	74	30	95	272	103	103	230	319	320	320	1189	571	618
22-Sep-12	99	111	45	128	384	159	159	248	255	255	335	1093	525	568
29-Sep-12	150	165	67	191	573	254	254	169	270	270	286	995	477	517
6-Oct-12	151	165	73	191	580	258	258	180	297	297	297	1071	514	557
13-Oct-12	152	164	75	193	584	259	259	229	327	327	327	1209	580	629
20-Oct-12	150	159	70	187	566	250	250	235	335	334	334	1239	595	644
27-Oct-12	148	155	65	184	554	244	244	233	335	335	335	1238	594	644
3-Nov-12	142	148	65	178	533	234	234	176	255	255	255	940	451	489
10-Nov-12	128	134	62	166	490	213	213	233	348	349	349	1279	614	665
17-Nov-12	150	154	71	194	568	252	252	207	205	289	204	905	435	471
24-Nov-12	149	157	71	199	576	255	255	251	281	350	281	1164	559	605
1-Dec-12	145	153	67	194	559	247	247	251	298	350	298	1197	574	622
8-Dec-12	143	153	62	197	555	245	245	241	350	350	350	1291	620	671
15-Dec-12	140	148	56	196	540	238	238	241	300	300	300	1140	547	593
22-Dec-12	138	144	66	196	545	240	240	239	308	308	308	1164	559	605
29-Dec-12	137	141	62	196	536	236	236	240	282	282	282	1085	521	564
Average Flow Rate (gpm)	**124**	**147**	**66**	**185**	**522**	**228**	**228**	**197**	**306**	**307**	**308**	**1118**	**536**	**581**
Optimized Flow Rate (gpm) (2012 Scenario 01)	**150**	**165**	**70**	**210**	**595**	**N/A[3]**	**N/A[3]**	**250**	**350**	**350**	**350**	**1300**	**N/A**	**N/A**
Percent of Optimized Design Rate	**83**	**89**	**94**	**88**	**88**	**N/A**	**N/A**	**79**	**87**	**88**	**88**	**86**	**N/A**	**N/A**

Data Source: AFCEC, January 2013, MMR-AFCEC Data Warehouse.

Notes:

27EW0002 was taken offline at the LF-1 treatment plant on 10/23/06. 27EW0002 was tied in with 27EW0006, 27EW0007, and 27EW0008 and directed to the Hunter Avenue Treatment Plant on 12/5/06.

[1] Effluent flow rates do not take into account the flow diversion to the Veterans Affairs (VA) cemetery for irrigation purposes, which was estimated to be approximately 65 gpm in 2012 based on information provided by the VA.

[2] Monthly manual measurements were used to calculate the percentage of flow to each trench in 2011. The average flow to the LF-1/CS-23 East and West infiltration trenches was an approximate 48/52 percent split, respectively, in 2012.

[3] There are no design flow rates for the reinjection well or infiltration gallery and trenches. The intent is to return treated water to the aquifer using the reinjection well as much as possible, but the infiltration gallery and trenches will be used as necessary to supplement the reinjection well.

Key:

CS-23 = Chemical Spill-23

EWs = extraction wells

gpm = gallons per minute

LF-1 = Landfill-1

N/A = not applicable

PEST = parameter estimation

Table 9
LF-1 Treatment Plant and Hunter Avenue Treatment Facility (LF-1/CS-23) Downtime Summary
LF-1/CS-23 2012 Summary Letter Report

LF-1 Treatment Plant		
Date	**Hours Off-Line**	**Reason**
1/4/2012	12.57	27EW0005 communication failure.
1/23/2012	16.25	Plant shut down for header shock and 27EW0001, 27EW0003, and 27EW0004 shock treatment.
1/24/2012	24.67	Shut plant down for carbon exchange CF101B.
2/22/2012	4.66	Plant tripped off due to a power failure.
4/19/2012	24.42	Carbon change CF101A.
4/30/2012	548.92	27EW0004 well maintenance.
6/25/2012	2.58	27EW0005 off for pump performance test.
6/26/2013	513.83	27EW0005 electric meter struck by lightning; replace service and troubleshoot communications.
7/12/2012	15.62	Energy curtailment.
7/18/2012	13.43	Power failure during thunderstorms.
7/30/2012	432.00	27EW0001 off for well maintenance.
9/12/2012	142.92	Plant shut down for influent header shock.
10/29/2012	21.42	Intentionally shut plant down due to hurricane/possible energy curtailment.
11/6/2012	25.00	Carbon change CF101B.

LF-1/CS-23 Portion of the Hunter Avenue Treatment Facility		
Date	**Hours Off-Line**	**Reason**
1/14/2012	297.36	27EW0006 off due to bad well motor.
1/28/2012	49.08	Plant off due to a high sump level in the plant.
2/22/2012	5.72	Power outage.
3/20/2012	27.16	27EW0002 and 27EW0008 off for carbon exchange CF3100B.
4/28/2012	56.83	27EW0002, 27EW0006, 27EW0007, and 27EW0008 off due to a power failure.
5/11/2012	65.70	27EW0006 tripped off, VFD fault. Bad well plug.
5/12/2012	432.00	27EW0008 tripped off, VFD fault. Bad pump and motor.
5/29/2012	16.56	27EW0006 tripped off, VFD fault.
5/30/2012	13.33	27EW0006 VFD fault. Start vault blower, open cabinet door, troubleshoot AC unit.
6/7/2012	23.08	27EW0006 off, VFD issue.
6/22/2012	75.42	27EW0006 off for carbon exchange CF3100A.
6/27/2012	8.83	Power blips at 27EW0006, 27EW0007, and 27EW0008.
7/12/2012	16.95	Energy curtailment.
7/18/2012	15.07	Power failure during thunderstorms.
7/24/2012	15.25	Plant tripped off due to a power failure; Wells restarted.
7/27/2012	73.25	27EW0002 and 27EW0007 off for carbon exchange CF3200B
8/8/2012	13.83	Plant tripped off due to a high sump level.
8/24/2012	7.33	Plant tripped off due to a high sump level.
9/5/2012	16.92	Plant tripped off due to a power failure at wells.
9/11/2012	7.83	Plant tripped off due to a high sump level caused by communication failure with wells.
9/21/2012	73.00	27EW0006 and 27EW0007 off for carbon exchange CF3100B.
9/26/2012	24.83	27EW0002 and 27EW0006 off for carbon exchange CF3200A.
10/4/2012	19.57	Plant tripped off due to a power failure in well field.
10/9/2012	3.97	Plant tripped off due to high sump level caused by wells tripping off.
10/29/2012	25.58	Intentionally shut plant down due to hurricane/possible energy curtailment.
10/31/2012	20.12	27EW0002,27EW0006,27EW0007, and 27EW0008 off no alarm, no VFD fault, no communication failure.
11/13/2012	5.17	Plant tripped off, power failure in the well field.
11/19/2012	5.42	Shut plant down for gas company digging on Boxberry Hill Road.
12/30/2012	15.25	Plant tripped off due to a power failure.

Key:
CS-23 = Chemical Spill-23
LF-1 = Landfill-1
VFD = variable frequency drive

Table 10
LF-1 Treatment Plant Mass Removal Summary
LF-1/CS-23 2012 Summary Letter Report

Date	LF-1 Treatment Plant Influent													
	PCE		TCE		VC		CCl_4		1,1,2,2-TeCA		1,4-DCB		Total COC Mass Removed	
	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)
Jan-12	0.55	160.80	0.53	164.50	0.05	8.16	0.07	49.99	0.02	9.20	0.22	16.18	1.4	408.8
Feb-12	0.58	161.30	0.55	165.10	0.11	8.24	0.06	50.05	0.00	9.21	0.25	16.42	1.6	410.3
Mar-12	0.61	162.00	0.57	165.60	0.10	8.35	0.07	50.12	0.04	9.24	0.28	16.68	1.7	412.0
Apr-12	0.44	162.40	0.44	166.10	0.10	8.44	0.05	50.17	0.02	9.26	0.18	16.88	1.2	413.3
May-12	0.44	162.90	0.43	166.50	0.10	8.55	0.04	50.22	0.03	9.29	0.20	17.07	1.2	414.5
Jun-12	0.57	163.40	0.49	167.00	0.16	8.69	0.07	50.28	0.04	9.32	0.27	17.32	1.6	416.0
Jul-12	0.67	164.00	0.51	167.50	0.14	8.83	0.10	50.37	0.00	9.33	0.30	17.61	1.7	417.6
Aug-12	0.55	164.60	0.63	168.10	0.13	8.97	0.08	50.45	0.04	9.36	0.26	17.89	1.7	419.4
Sep-12	0.44	165.10	0.54	168.70	0.10	9.07	0.06	50.52	0.00	9.38	0.23	18.12	1.4	420.9
Oct-12	0.56	165.70	0.68	169.40	0.13	9.19	0.07	50.59	0.01	9.38	0.29	18.41	1.7	422.7
Nov-12	0.54	166.20	0.61	170.00	0.13	9.33	0.08	50.66	0.04	9.42	0.26	18.66	1.7	424.3
Dec-12	0.51	166.70	0.65	170.60	0.12	9.46	0.07	50.74	0.00	9.44	0.26	18.93	1.6	425.9

PCE Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**6.5**
TCE Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**6.6**
VC Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**1.4**
CCl_4 Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**0.8**
1,1,2,2-TeCA Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**0.2**
1,4-DCB Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**3.0**
PCE Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**166.7**
TCE Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**170.6**
VC Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**9.5**
CCl_4 Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**50.7**
1,1,2,2-TeCA Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**9.4**
1,4-DCB Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**18.9**
Total COC Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)	**18.5**
Total COC Mass Removed (lbs) Since Startup (November 1999 - December 2012)	**425.9**

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Note:
27EW0002 was taken offline at the LF-1 treatment plant on 10/23/06. 27EW0002 was tied in with 27EW0006, 27EW0007, and 27EW0008 and directed to the Hunter Avenue Treatment Facility on 12/5/06.

Key:
CCl_4 = carbon tetrachloride
COC = contaminant of concern
DCB = dichlorobenzene
gpm = gallons per minute
lbs = pounds
LF-1 = Landfill-1
PCE = tetrachloroethene
TeCA = tetrachloroethane
TCE = trichloroethene
VC = vinyl chloride

Table 11
Hunter Avenue Treatment Facility (LF-1/CS-23) Mass Removal Summary
LF-1/CS-23 2012 Summary Letter Report

Date	Hunter Avenue Treatment Facility LF-1/CS-23 Influent													
	PCE		TCE		VC		CCl_4		1,1,2,2-TeCA		1,4-DCB		Total COC Mass Removed	
	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)	Incremental Mass (lbs)	Accumulated Mass (lbs)
Jan-12	1.1	108.2	1.2	102.7	0.0	0.0	0.6	50.4	0.0	0.1	0.0	2.7	2.8	264.1
Feb-12	1.3	109.6	1.5	104.2	0.0	0.0	0.7	51.1	0.0	0.1	0.0	2.7	3.5	267.7
Mar-12	1.3	110.9	1.5	105.8	0.0	0.0	0.7	51.9	0.0	0.1	0.0	2.7	3.6	271.4
Apr-12	1.2	112.1	1.4	107.2	0.0	0.0	0.6	52.6	0.0	0.1	0.0	2.7	3.2	274.6
May-12	1.2	113.2	1.1	108.3	0.0	0.0	0.7	53.2	0.0	0.1	0.0	2.7	3.0	277.5
Jun-12	1.1	114.4	1.2	109.5	0.0	0.0	0.7	53.9	0.0	0.1	0.0	2.7	2.9	280.6
Jul-12	1.3	115.7	1.8	111.2	0.0	0.0	0.7	54.7	0.0	0.1	0.0	2.7	3.8	284.3
Aug-12	1.4	117.1	1.7	112.9	0.0	0.0	0.8	55.4	0.0	0.1	0.0	2.7	3.9	288.2
Sep-12	1.3	118.4	1.5	114.5	0.0	0.0	0.7	56.2	0.0	0.1	0.0	2.7	3.5	291.8
Oct-12	1.1	119.6	1.6	116.0	0.0	0.0	0.8	56.9	0.0	0.1	0.0	2.7	3.4	295.3
Nov-12	1.4	120.9	1.6	117.6	0.0	0.0	0.7	57.7	0.0	0.1	0.0	2.7	3.7	298.9
Dec-12	1.1	122.1	1.4	119.1	0.0	0.0	0.8	58.5	0.0	0.1	0.0	2.7	3.4	302.4
PCE Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**14.8**
TCE Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**17.4**
VC Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**0.0**
CCl_4 Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**8.7**
1,1,2,2-TeCA Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**0.0**
1,4-DCB Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**0.0**
PCE Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**122.1**
TCE Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**119.1**
VC Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**0.0**
CCl_4 Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**58.5**
1,1,2,2-TeCA Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**0.1**
1,4-DCB Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**2.7**
Total COC Mass Removed (lbs) During Reporting Period (January 2012 - December 2012)														**40.9**
Total COC Mass Removed (lbs) Since Startup (December 2006 - December 2012)														**302.4**

Data Source: AFCEC, February 2013, AFCEC-MMR Data Warehouse

Note:
The LF-1/CS-23 influent line at Hunter Avenue receives groundwater from LF-1 extraction wells 27EW0002 and 27EW0006, and CS-23 extraction wells 27EW0007 and 27EW0008.

Key:
CCl_4 = carbon tetrachloride
COC = contaminant of concern
CS-23 = Chemical Spill-23
DCB = dichlorobenzene
PCE = tetrachloroethene
lbs = pounds
LF-1 = Landfill-1
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride

Table 12
LF-1 and CS-23 Extraction Well Mass Removal Summary
LF-1/CS-23 2012 Summary Letter Report

Extraction Well	Period	PCE Mass Removed for Period (lb)	TCE Mass Removed for Period (lb)	VC Mass Removed for Period (lb)	CCl_4 Mass Removed for Period (lb)	1,1,2,2-TeCA Mass Removed for Period (lb)	1,4-DCB Mass Removed for Period (lb)	EDB Mass Removed for Period (lb)	COC Mass Removed for Period (lb)
27EW0001	August 1999 - December 1999	1.2	1.2	0.0	0.5	0.0	0.0	0.000	2.9
	January 2000 - December 2000	2.8	3.3	0.0	1.1	0.0	0.0	0.000	7.2
	January 2001 - December 2001	2.5	2.6	0.0	0.8	0.0	0.0	0.000	5.9
	January 2002 - December 2002	3.0	3.2	0.0	0.8	0.0	0.0	0.000	6.9
	January 2003 - December 2003	2.5	3.3	0.2	0.8	0.0	0.1	0.000	6.8
	January 2004 - December 2004	3.1	3.4	0.2	0.9	0.1	0.3	0.000	8.1
	January 2005 - December 2005	3.0	2.9	0.3	0.8	0.1	0.4	0.000	7.6
	January 2006 - December 2006	2.7	2.6	0.4	0.8	0.1	0.5	0.002	7.1
	January 2007 - December 2007	2.0	2.1	0.3	0.5	0.1	0.5	0.000	5.5
	January 2008 - December 2008	2.5	2.3	0.4	0.6	0.1	0.7	0.001	6.6
	January 2009 - December 2009	1.9	1.8	0.4	0.5	0.0	0.7	0.001	5.3
	January 2010 - December 2010	2.3	2.5	0.4	0.7	0.0	0.9	0.000	6.7
	January 2011 - December 2011	2.1	2.7	0.6	0.8	0.0	0.9	0.000	7.1
	January 2012 - December 2012	2.4	3.1	0.7	1.0	0.0	1.0	0.000	8.1
Percent of total 2012 LF-1 COC mass removed by 27EW0001 during 2012									15.02%
27EW0002	August 1999 - December 1999	1.2	1.4	0.0	2.4	0.2	0.0	0.000	5.1
	January 2000 - December 2000	2.5	2.8	0.0	5.2	0.2	0.0	0.000	10.6
	January 2001 - December 2001	2.7	2.7	0.0	5.1	0.2	0.0	0.000	10.6
	January 2002 - December 2002	2.9	2.8	0.0	4.4	0.3	0.0	0.000	10.4
	January 2003 - December 2003	3.0	3.5	0.1	4.7	0.3	0.1	0.000	11.6
	January 2004 - December 2004	4.5	4.4	0.1	5.8	0.4	0.3	0.000	15.6
	January 2005 - December 2005	4.8	4.3	0.1	5.2	0.3	0.4	0.001	15.0
	January 2006 - December 2006	4.4	4.0	0.2	4.0	0.3	0.4	0.005	13.3
	January 2007 - December 2007	5.3	6.5	0.4	4.6	0.4	0.8	0.009	17.8
	January 2008 - December 2008	4.5	7.3	0.5	3.6	0.4	0.8	0.010	17.1
	January 2009 - December 2009	4.8	8.4	0.5	3.3	0.3	0.8	0.012	18.1
	January 2010 - December 2010	4.4	8.3	0.2	3.1	0.2	0.8	0.007	17.0
	January 2011 - December 2011	3.4	7.3	0.3	2.4	0.1	0.7	0.012	14.2
	January 2012 - December 2012	3.3	7.1	0.3	2.0	0.2	0.6	0.010	13.5
Percent of total 2012 LF-1 COC mass removed by 27EW0002 during 2012									24.84%
27EW0003	August 1999 - December 1999	2.4	1.7	0.0	0.1	0.0	0.0	0.000	4.2
	January 2000 - December 2000	4.5	4.6	0.0	0.2	0.0	0.1	0.000	9.3
	January 2001 - December 2001	3.6	3.8	0.2	0.1	0.0	0.3	0.000	7.9
	January 2002 - December 2002	3.3	3.4	0.1	0.0	0.0	0.1	0.000	6.9
	January 2003 - December 2003	3.2	4.0	0.4	0.2	0.0	0.5	0.000	8.3
	January 2004 - December 2004	4.1	4.0	0.3	0.2	0.0	0.8	0.000	9.2
	January 2005 - December 2005	3.7	3.0	0.4	0.1	0.0	0.7	0.000	7.9
	January 2006 - December 2006	3.4	2.7	0.5	0.1	0.0	0.8	0.000	7.5
	January 2007 - December 2007	2.6	2.4	0.5	0.0	0.0	0.9	0.000	6.3
	January 2008 - December 2008	3.0	2.5	0.7	0.0	0.0	1.3	0.000	7.4
	January 2009 - December 2009	2.2	1.8	0.5	0.0	0.0	1.3	0.000	5.8
	January 2010 - December 2010	2.6	2.2	0.6	0.0	0.0	1.6	0.000	7.0
	January 2011 - December 2011	1.9	1.6	0.8	0.0	0.0	1.6	0.000	6.0
	January 2012 - December 2012	2.3	1.8	0.9	0.0	0.0	1.9	0.000	6.9
Percent of total 2012 LF-1 COC mass removed by 27EW0003 during 2012									12.65%

Table 12
LF-1 and CS-23 Extraction Well Mass Removal Summary
LF-1/CS-23 2012 Summary Letter Report

Extraction Well	Period	PCE Mass Removed for Period (lb)	TCE Mass Removed for Period (lb)	VC Mass Removed for Period (lb)	CCl_4 Mass Removed for Period (lb)	1,1,2,2-TeCA Mass Removed for Period (lb)	1,4-DCB Mass Removed for Period (lb)	EDB Mass Removed for Period (lb)	COC Mass Removed for Period (lb)
27EW0004	August 1999 - December 1999	3.4	1.0	0.0	0.1	0.0	0.0	0.000	4.5
	January 2000 - December 2000	7.5	4.1	0.0	0.4	0.0	0.0	0.000	12.1
	January 2001 - December 2001	5.7	4.1	0.1	0.3	0.0	0.1	0.000	10.2
	January 2002 - December 2002	5.4	3.2	0.0	0.1	0.0	0.0	0.000	8.6
	January 2003 - December 2003	1.2	0.5	0.0	0.0	0.0	0.0	0.000	1.8
	January 2004 - December 2004	0.9	0.2	0.0	0.0	0.0	0.0	0.000	1.2
	January 2005 - December 2005	0.9	0.2	0.0	0.0	0.0	0.0	0.000	1.1
	January 2006 - December 2006	1.2	0.2	0.0	0.0	0.0	0.0	0.000	1.5
	January 2007 - December 2007	2.1	0.5	0.0	0.0	0.0	0.0	0.000	2.5
	January 2008 - December 2008	2.4	0.5	0.0	0.0	0.0	0.0	0.000	3.0
	January 2009 - December 2009	2.1	0.5	0.0	0.0	0.0	0.1	0.000	2.7
	January 2010 - December 2010	2.0	0.5	0.1	0.0	0.0	0.1	0.000	2.6
	January 2011 - December 2011	2.9	0.7	0.2	0.0	0.0	0.3	0.000	4.1
	January 2012 - December 2012	2.9	0.7	0.2	0.0	0.0	0.3	0.000	4.1
Percent of total 2012 LF-1 COC mass removed by 27EW0004 during 2012									7.57%
27EW0005	August 1999 - December 1999	0.9	1.8	0.0	0.0	0.5	0.0	0.000	3.2
	January 2000 - December 2000	1.7	5.8	0.0	0.0	2.1	0.0	0.000	9.5
	January 2001 - December 2001	1.3	4.3	0.0	0.0	1.4	0.0	0.000	7.0
	January 2002 - December 2002	1.4	3.8	0.0	0.0	1.2	0.0	0.000	6.4
	January 2003 - December 2003	0.9	3.3	0.0	0.0	1.0	0.0	0.000	5.2
	January 2004 - December 2004	1.1	3.5	0.0	0.0	1.0	0.0	0.000	5.6
	January 2005 - December 2005	1.0	3.1	0.0	0.0	0.7	0.0	0.000	4.9
	January 2006 - December 2006	1.0	3.1	0.0	0.0	0.7	0.0	0.000	4.7
	January 2007 - December 2007	0.6	2.1	0.0	0.0	0.4	0.0	0.000	3.1
	January 2008 - December 2008	0.9	3.3	0.0	0.0	0.6	0.0	0.000	4.8
	January 2009 - December 2009	0.7	3.2	0.0	0.0	0.6	0.0	0.000	4.5
	January 2010 - December 2010	0.6	3.0	0.0	0.0	0.5	0.0	0.000	4.1
	January 2011 - December 2011	0.5	2.4	0.0	0.0	0.4	0.0	0.000	3.3
	January 2012 - December 2012	0.5	2.6	0.0	0.0	0.5	0.0	0.000	3.6
Percent of total 2012 LF-1 COC mass removed by 27EW0005 during 2012									6.71%
27EW0006	December 2006	0.5	0.1	0.0	0.2	0.0	0.0	0.003	0.9
	January 2007 - December 2007	6.9	1.9	0.0	3.0	0.0	0.0	0.027	11.8
	January 2008 - December 2008	5.7	2.0	0.0	2.8	0.0	0.0	0.021	10.5
	January 2009 - December 2009	5.0	2.2	0.0	2.6	0.0	0.0	0.010	9.8
	January 2010 - December 2010	5.7	3.0	0.0	3.6	0.0	0.0	0.007	12.3
	January 2011 - December 2011	9.9	5.6	0.0	6.1	0.0	0.0	0.013	21.6
	January 2012 - December 2012	8.7	4.7	0.0	4.5	0.0	0.0	0.012	18.0
Percent of total 2012 LF-1 COC mass removed by 27EW0006 during 2012									33.22%

Table 12
LF-1 and CS-23 Extraction Well Mass Removal Summary
LF-1/CS-23 2012 Summary Letter Report

Extraction Well	Period	PCE Mass Removed for Period (lb)	TCE Mass Removed for Period (lb)	VC Mass Removed for Period (lb)	CCl_4 Mass Removed for Period (lb)	1,1,2,2-TeCA Mass Removed for Period (lb)	1,4-DCB Mass Removed for Period (lb)	EDB Mass Removed for Period (lb)	COC Mass Removed for Period (lb)
27EW0007	December 2006	0.9	0.1	0.0	0.1	0.0	0.0	0.000	1.1
	January 2007 - December 2007	15.8	1.4	0.0	2.2	0.0	0.0	0.000	19.4
	January 2008 - December 2008	9.4	1.5	0.0	1.9	0.0	0.0	0.000	12.7
	January 2009 - December 2009	7.5	2.5	0.0	1.8	0.0	0.0	0.000	11.9
	January 2010 - December 2010	7.1	4.0	0.0	2.5	0.0	0.0	0.000	13.6
	January 2011 - December 2011	3.6	2.5	0.0	1.7	0.0	0.0	0.000	7.8
	January 2012 - December 2012	4.5	3.3	0.0	2.1	0.0	0.0	0.000	9.9
Percent of total 2012 CS-23 COC mass removed by 27EW0007 during 2012									52.09%
27EW0008	December 2006	0.1	0.5	0.0	0.1	0.0	0.0	0.000	0.8
	January 2007 - December 2007	1.4	11.8	0.0	0.8	0.0	0.0	0.000	14.1
	January 2008 - December 2008	0.7	9.7	0.0	0.3	0.0	0.0	0.000	10.7
	January 2009 - December 2009	0.4	6.3	0.0	0.0	0.0	0.0	0.000	6.7
	January 2010 - December 2010	0.3	5.6	0.0	0.0	0.0	0.0	0.000	5.9
	January 2011 - December 2011	0.2	3.7	0.0	0.0	0.0	0.0	0.000	3.9
	January 2012 - December 2012	0.3	5.0	0.0	0.0	0.0	0.0	0.000	5.3
Percent of total 2012 CS-23 COC mass removed by 27EW0008 during 2012									47.91%
Total PCE Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**20.2**
Total TCE Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**19.9**
Total VC Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**2.2**
Total CCl_4 Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**7.5**
Total 1,1,2,2-TeCA Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.7**
Total 1,4-DCB Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**3.8**
Total EDB Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.02**
Total PCE Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**4.8**
Total TCE Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**8.3**
Total VC Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.0**
Total CCl4 Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**2.1**
Total 1,1,2,2-TeCA Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.0**
Total 1,4-DCB Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.0**
Total EDB Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**0.0**
Total COC Mass Removed by LF-1 Extraction Wells During Reporting Period (January 2012 - December 2012)									**54.2**
Total COC Mass Removed by CS-23 Extraction Wells During Reporting Period (January 2012 - December 2012)									**10.4**
Total COC Mass Removed by LF-1 Extraction Wells Since Startup (August 1999 - December 2012)									**597.6**
Total COC Mass Removed by CS-23 Extraction Wells Since Startup (December 2006 - December 2012)									**71.3**

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse.

Key:

CCl_4 = carbon tetrachloride
COC = contaminant of concern
CS-4 = Chemical Spill-4
DCB = dichlorobenzene
EDB = ethylene dibromide
lb = pound
PCE = tetrachloroethene
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride
µg/L = micrograms per liter

Table 13
LF-1 and CS-23 Plume Shell Mass and Volume
LF-1\CS-23 2012 Summary Letter Report

Contaminant	2007 LF-1 Plume Shell					2007 CS-23 Plume Shell
	PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,4-DCB (µg/L) MMCL = 5	TCE (µg/L) MCL = 5
Dissolved Mass (pounds)	321	331	18	66	9	59
Volume (billion gallons)	4.3	3.5	0.7	1.1	0.2	0.6

Data Source: AFCEE. 2009a (May). *Final LF-1/CS-23 2007 Plume Update Technical Memorandum,* 371335-SPEIM-LF1/CS23-TECHMEM-001.

Note:
Mass and volume plume shell estimates based on concentrations of COCs above their MCL/MMCL.

Key:
CCl_4 = carbon tetrachloride
COC = contaminant of concern
CS-23 = Chemical Spill-23
DCB = dichlorobenzene
LF-1 = Landfill-1
MCL = Maximum Contaminant Level
MMCL = Massachusetts MCL
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride

Table 14a
LF-1 Treatment Plant System Electrical Consumption and Associated Air Emissions
LF-1/CS-23 2012 Summary Letter Report

		1/1/2012 to 12/31/2012	System Startup (8/1999) to 12/31/2012
Volume of Groundwater Treated (million gallons)		**254**	**4,053**
Groundwater COC Mass Removal (pounds)		**19**	**426**
Electrical Usage (MWh)		**526**	**8,299**
Estimated Air Emissions[1] (based on electrical usage)	**CO_2 (tons)**	345	6,603
	NOx (lbs)	742	10,755
	PM-10 (lbs)	42	413
	SO_2 (lbs)	1,978	13,927
	VOCs (lbs)	26	470
Estimated Reduction in Air Emissions due to Green Power Purchases[2]	**CO_2 (tons)**	103	887
	NOx (lbs)	223	1,712
	PM-10 (lbs)	13	86
	SO_2 (lbs)	594	3,722
	VOCs (lbs)	8	65
Estimated Reduction in Air Emissions due to MMR Wind Turbine Operation[3]	**CO_2 (tons)**	355	587
	NOx (lbs)	764	1264
	PM-10 (lbs)	44	72
	SO_2 (lbs)	2,038	3371
	VOCs (lbs)	27	44
Estimated Total Air Emissions with consideration of Green Power Purchases and MMR Wind Turbine Operation	**CO_2 (tons)**	**0**	**5,243**
	NOx (lbs)	**0**	**8,024**
	PM-10 (lbs)	**0**	**268**
	SO_2 (lbs)	**0**	**7,488**
	VOCs (lbs)	**0**	**369**

Notes:

1) The estimated air emissions presented in this table are based on the assumption that until 4/30/2009, the power used to operate the MMR remedial systems was provided by the Mirant Canal Station power plant in Sandwich, MA. This power plant primarily produced electricity generated by the combustion of fuel oil and has been off-line since 5/1/2009. Starting on 5/1/2009, air emissions are based on electricity generated by the average mix of power sources in Massachusetts. Air emissions were calculated using MMR utility data from AFCEE's Metrix 4 Utility Accounting Software (http://www.abraxasenergy.com/metrix4.php) and emission factors obtained from the following websites:
http://www.csgnetwork.com/elecpowerpolcalc.html
http://www.metrixcentral.com/EmissionsCalculator/Emissions%20Factors%202004.pdf
2) Emissions offset by purchases of electricity from renewable sources beginning 7/1/2008 and ending on 8/1/2012.
3) Emissions offset by operation of AFCEE-owned wind turbines beginning on 12/2/2009 (Wind I) and 11/8/2011 (Wind II).

Key:
COC = contaminant of concern
CO_2 = carbon dioxide
CS-23 = chemical spill-23
lbs = pounds
LF-1 = Landfill-1
MMR = Massachusetts Military Reservation
MWh = megawatt hours
NO_x = nitrogen oxides
PM-10 = particulate matter with a diameter of 10 micrometers or less
SO_2 = sulfur dioxide
VOCs = volatile organic compounds

Table 14b
LF-1/CS-23 HATF Electrical Consumption and Associated Air Emissions
LF-1/CS-23 2012 Summary Letter Report

		1/1/2012 to 12/31/2012	System Startup (12/2006) to 12/31/2012
Volume of Groundwater Treated (million gallons)		**541**	**3,676**
Groundwater COC Mass Removal (pounds)		**41**	**302**
Electrical Usage (MWh)		**1,038**	**8,411**
Estimated Air Emissions[1] (based on electrical usage)	**CO_2 (tons)**	680	6,240
	NOx (lbs)	1,464	11,267
	PM-10 (lbs)	84	518
	SO_2 (lbs)	3,903	20,809
	VOCs (lbs)	51	453
Estimated Reduction in Air Emissions due to Green Power Purchases[2]	**CO_2 (tons)**	183	1,667
	NOx (lbs)	393	3,352
	PM-10 (lbs)	23	178
	SO_2 (lbs)	1,049	7,928
	VOCs (lbs)	14	124
Estimated Reduction in Air Emissions due to MMR Wind Turbine Operation[3]	**CO_2 (tons)**	700	1183
	NOx (lbs)	1,508	2546
	PM-10 (lbs)	86	146
	SO_2 (lbs)	4,021	6790
	VOCs (lbs)	53	89
Estimated Total Air Emissions with consideration of Green Power Purchases and MMR Wind Turbine Operation	**CO_2 (tons)**	**0**	**3,594**
	NOx (lbs)	**0**	**5,806**
	PM-10 (lbs)	**0**	**219**
	SO_2 (lbs)	**0**	**7,257**
	VOCs (lbs)	**0**	**256**

Notes:

1) The estimated air emissions presented in this table are based on the assumption that until 4/30/2009, the power used to operate the MMR remedial systems was provided by the Mirant Canal Station power plant in Sandwich, MA. This power plant primarily produced electricity generated by the combustion of fuel oil and has been off-line since 5/1/2009. Starting on 5/1/2009, air emissions are based on electricity generated by the average mix of power sources in Massachusetts. Air emissions were calculated using MMR utility data from AFCEE's Metrix 4 Utility Accounting Software
(http://www.abraxasenergy.com/metrix4.php) and emission factors obtained from the following websites:
http://www.csgnetwork.com/elecpowerpolcalc.html
http://www.metrixcentral.com/EmissionsCalculator/Emissions%20Factors%202004.pdf
2) Emissions offset by purchases of electricity from renewable sources beginning 7/1/2008 and ending on 8/1/2012.
3) Emissions offset by operation of AFCEE-owned wind turbines beginning on 12/2/2009 (Wind I) and 11/8/2011 (Wind II).

Key:
COC = contaminant of concern
CO_2 = carbon dioxide
CS-23 = chemical spill-23
HATF = Hunter Avenue Treatment Facility
lbs = pounds
LF-1 = Landfill-1
MMR = Massachusetts Military Reservation
MWh = megawatt hours
NO_x = nitrogen oxides
PM-10 = particulate matter with a diameter of 10 micrometers or less
SO_2 = sulfur dioxide
VOCs = volatile organic compounds

ATTACHMENT A

Comparison of Detected Concentrations in LF-1 and CS-23 Groundwater, Surface Water, and Treatment Plant Samples to Applicable Standards

Attachment A
Comparison of Detected Concentrations in LF-1/CS-23 Groundwater, Surface Water, and Treatment Plant Samples to Applicable Standards
LF-1/CS-23 2012 Summary Letter Report

Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27EW0001	1/12/2012	-106.14	WG	SW8260B	1,4-DICHLOROBENZENE	1.7	0.19	1	5	MMCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	CARBON TETRACHLORIDE	1.5	0.2	1	5	MCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	cis-1,2-DICHLOROETHENE	15	0.2	1	70	MCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.7	0.19	1	5	MCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	TRICHLOROETHENE (TCE)	4.9	0.2	1	5	MCL	No
27EW0001	1/12/2012	-106.14	WG	SW8260B	VINYL CHLORIDE	1.2	0.2	1	2	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	1,4-DICHLOROBENZENE	1.6	0.19	1	5	MMCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	CARBON TETRACHLORIDE	1.4	0.2	1	5	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	cis-1,2-DICHLOROETHENE	13	0.2	1	70	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	TRICHLOROETHENE (TCE)	4.6	0.2	1	5	MCL	No
27EW0001	7/5/2012	-106.14	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	CARBON TETRACHLORIDE	2.6	0.2	1	5	MCL	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	cis-1,2-DICHLOROETHENE	7.8	0.2	1	70	MCL	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.6	0.19	1	5	MCL	No
27EW0002	1/12/2012	-89.05	WG	SW8260B	TRICHLOROETHENE (TCE)	8.4	0.2	1	5	MCL	Yes
27EW0002	1/12/2012	-89.05	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0002	4/18/2012	-89.05	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27EW0002	4/18/2012	-89.05	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.034J	0.005	0.01	0.02	MMCL	Yes
27EW0002	4/18/2012	-89.05	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27EW0002	4/18/2012	-89.05	WG	SW8260B	CARBON TETRACHLORIDE	2.1	0.2	1	5	MCL	No
27EW0002	4/18/2012	-89.05	WG	SW8260B	cis-1,2-DICHLOROETHENE	8	0.2	1	70	MCL	No
27EW0002	4/18/2012	-89.05	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
27EW0002	4/18/2012	-89.05	WG	SW8260B	TRICHLOROETHENE (TCE)	7.4	0.2	1	5	MCL	Yes
27EW0002	7/5/2012	-89.05	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.012	0.005	0.01	0.02	MMCL	No
27EW0002	7/5/2012	-89.05	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27EW0002	7/5/2012	-89.05	WG	SW8260B	CARBON TETRACHLORIDE	2.6	0.2	1	5	MCL	No
27EW0002	7/5/2012	-89.05	WG	SW8260B	cis-1,2-DICHLOROETHENE	7.2	0.2	1	70	MCL	No
27EW0002	7/5/2012	-89.05	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
27EW0002	7/5/2012	-89.05	WG	SW8260B	TRICHLOROETHENE (TCE)	7.6	0.2	1	5	MCL	Yes
27EW0002	7/5/2012	-89.05	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0002	10/3/2012	-89.05	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.012	0.005	0.01	0.02	MMCL	No
27EW0002	10/3/2012	-89.05	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27EW0002	10/3/2012	-89.05	WG	SW8260B	CARBON TETRACHLORIDE	2.5	0.2	1	5	MCL	No
27EW0002	10/3/2012	-89.05	WG	SW8260B	cis-1,2-DICHLOROETHENE	7.3	0.2	1	70	MCL	No
27EW0002	10/3/2012	-89.05	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
27EW0002	10/3/2012	-89.05	WG	SW8260B	TRICHLOROETHENE (TCE)	7.3	0.2	1	5	MCL	Yes
27EW0002	10/3/2012	-89.05	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0003	1/12/2012	-90.80	WG	SW8260B	1,4-DICHLOROBENZENE	3	0.19	1	5	MMCL	No
27EW0003	1/12/2012	-90.80	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27EW0003	1/12/2012	-90.80	WG	SW8260B	cis-1,2-DICHLOROETHENE	14	0.2	1	70	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27EW0003	1/12/2012	-90.80	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
27EW0003	1/12/2012	-90.80	WG	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27EW0003	1/12/2012	-90.80	WG	SW8260B	VINYL CHLORIDE	1.5	0.2	1	2	MCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	1,4-DICHLOROBENZENE	3.2	0.19	1	5	MMCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	cis-1,2-DICHLOROETHENE	14	0.2	1	70	MCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.6	0.19	1	5	MCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	TRICHLOROETHENE (TCE)	3.3	0.2	1	5	MCL	No
27EW0003	7/5/2012	-90.80	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0004	1/12/2012	-90.07	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27EW0004	1/12/2012	-90.07	WG	SW8260B	cis-1,2-DICHLOROETHENE	8.5	0.2	1	70	MCL	No
27EW0004	1/12/2012	-90.07	WG	SW8260B	TETRACHLOROETHENE (PCE)	5.9	0.19	1	5	MCL	Yes
27EW0004	1/12/2012	-90.07	WG	SW8260B	TRICHLOROETHENE (TCE)	1.5	0.2	1	5	MCL	No
27EW0004	1/12/2012	-90.07	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0004	7/5/2012	-90.07	WG	SW8260B	1,4-DICHLOROBENZENE	1.1	0.19	1	5	MMCL	No
27EW0004	7/5/2012	-90.07	WG	SW8260B	cis-1,2-DICHLOROETHENE	8.2	0.2	1	70	MCL	No
27EW0004	7/5/2012	-90.07	WG	SW8260B	TETRACHLOROETHENE (PCE)	5.5	0.19	1	5	MCL	Yes
27EW0004	7/5/2012	-90.07	WG	SW8260B	TRICHLOROETHENE (TCE)	1.5	0.2	1	5	MCL	No
27EW0004	7/5/2012	-90.07	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0005	1/12/2012	-49.28	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27EW0005	1/12/2012	-49.28	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
27EW0005	1/12/2012	-49.28	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27EW0005	1/12/2012	-49.28	WG	SW8260B	TRICHLOROETHENE (TCE)	3.3	0.2	1	5	MCL	No
27EW0005	7/20/2012	-49.28	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
27EW0005	7/20/2012	-49.28	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27EW0005	7/20/2012	-49.28	WG	SW8260B	TRICHLOROETHENE (TCE)	1.6	0.2	1	5	MCL	No
27EW0006	1/12/2012	-83.89	WG	SW8260B	CARBON TETRACHLORIDE	2.6	0.2	1	5	MCL	No
27EW0006	1/12/2012	-83.89	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
27EW0006	1/12/2012	-83.89	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.3	0.19	1	5	MCL	No
27EW0006	1/12/2012	-83.89	WG	SW8260B	TRICHLOROETHENE (TCE)	2.6	0.2	1	5	MCL	No
27EW0006	4/18/2012	-83.89	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.026J	0.005	0.01	0.02	MMCL	Yes
27EW0006	4/18/2012	-83.89	WG	SW8260B	CARBON TETRACHLORIDE	2	0.2	1	5	MCL	No
27EW0006	4/18/2012	-83.89	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
27EW0006	4/18/2012	-83.89	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.9	0.19	1	5	MCL	No
27EW0006	4/18/2012	-83.89	WG	SW8260B	TRICHLOROETHENE (TCE)	2.3	0.2	1	5	MCL	No
27EW0006	7/5/2012	-83.89	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	BRL	0.005	0.01	0.02	MMCL	No
27EW0006	7/5/2012	-83.89	WG	SW8260B	CARBON TETRACHLORIDE	2.3	0.2	1	5	MCL	No
27EW0006	7/5/2012	-83.89	WG	SW8260B	cis-1,2-DICHLOROETHENE	1.1	0.2	1	70	MCL	No
27EW0006	7/5/2012	-83.89	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.1	0.19	1	5	MCL	No
27EW0006	7/5/2012	-83.89	WG	SW8260B	TRICHLOROETHENE (TCE)	2.6	0.2	1	5	MCL	No
27EW0006	7/5/2012	-83.89	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27EW0006	10/3/2012	-83.89	WG	E504.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	BRL	0.005	0.01	0.02	MMCL	No
27EW0006	10/3/2012	-83.89	WG	SW8260B	CARBON TETRACHLORIDE	1.9	0.2	1	5	MCL	No
27EW0006	10/3/2012	-83.89	WG	SW8260B	cis-1,2-DICHLOROETHENE	1	0.2	1	70	MCL	No
27EW0006	10/3/2012	-83.89	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27EW0006	10/3/2012	-83.89	WG	SW8260B	TRICHLOROETHENE (TCE)	2.3	0.2	1	5	MCL	No
27EW0007	1/12/2012	-112.14	WG	SW8260B	CARBON TETRACHLORIDE	2	0.2	1	5	MCL	No
27EW0007	1/12/2012	-112.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.8	0.19	1	5	MCL	No
27EW0007	1/12/2012	-112.14	WG	SW8260B	TRICHLOROETHENE (TCE)	3.3	0.2	1	5	MCL	No
27EW0007	4/18/2012	-112.14	WG	SW8260B	CARBON TETRACHLORIDE	1.8	0.2	1	5	MCL	No
27EW0007	4/18/2012	-112.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
27EW0007	4/18/2012	-112.14	WG	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27EW0007	7/5/2012	-112.14	WG	SW8260B	CARBON TETRACHLORIDE	2.2	0.2	1	5	MCL	No
27EW0007	7/5/2012	-112.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.9	0.19	1	5	MCL	No
27EW0007	7/5/2012	-112.14	WG	SW8260B	TRICHLOROETHENE (TCE)	3.2	0.2	1	5	MCL	No
27EW0007	10/3/2012	-112.14	WG	SW8260B	CARBON TETRACHLORIDE	2.4	0.2	1	5	MCL	No
27EW0007	10/3/2012	-112.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.1	0.19	1	5	MCL	No
27EW0007	10/3/2012	-112.14	WG	SW8260B	TRICHLOROETHENE (TCE)	3	0.2	1	5	MCL	No
27EW0008	1/12/2012	-99.99	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27EW0008	1/12/2012	-99.99	WG	SW8260B	TRICHLOROETHENE (TCE)	4.3	0.2	1	5	MCL	No
27EW0008	4/18/2012	-99.99	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27EW0008	4/18/2012	-99.99	WG	SW8260B	TRICHLOROETHENE (TCE)	3.8	0.2	1	5	MCL	No
27EW0008	7/5/2012	-99.99	WG	SW8260B	TRICHLOROETHENE (TCE)	4.1	0.2	1	5	MCL	No
27EW0008	10/3/2012	-99.99	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27EW0008	10/3/2012	-99.99	WG	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27MW0022	6/5/2012	-42.00	WG	SW8260B	1,4-DICHLOROBENZENE	1.4	0.19	1	5	MMCL	No
27MW0022	6/5/2012	-42.00	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW0022	6/5/2012	-42.00	WG	SW8260B	cis-1,2-DICHLOROETHENE	12	0.2	1	70	MCL	No
27MW0022	6/5/2012	-42.00	WG	SW8260B	TETRACHLOROETHENE (PCE)	6.2	0.19	1	5	MCL	Yes
27MW0022	6/5/2012	-42.00	WG	SW8260B	TRICHLOROETHENE (TCE)	23	0.2	1	5	MCL	Yes
27MW0022	6/5/2012	-42.00	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27MW0026B	6/5/2012	-99.63	WG	SW8260B	CARBON TETRACHLORIDE	2.2	0.2	1	5	MCL	No
27MW0026B	6/5/2012	-99.63	WG	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
27MW0026B	6/5/2012	-99.63	WG	SW8260B	TETRACHLOROETHENE (PCE)	6.9	0.19	1	5	MCL	Yes
27MW0026B	6/5/2012	-99.63	WG	SW8260B	TRICHLOROETHENE (TCE)	4.2	0.2	1	5	MCL	No
27MW0028B	6/4/2012	-19.30	WG	SW8260B	CARBON TETRACHLORIDE	1	0.2	1	5	MCL	No
27MW0028B	6/4/2012	-19.30	WG	SW8260B	cis-1,2-DICHLOROETHENE	10	0.2	1	70	MCL	No
27MW0028B	6/4/2012	-19.30	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.3	0.19	1	5	MCL	No
27MW0028B	6/4/2012	-19.30	WG	SW8260B	TRICHLOROETHENE (TCE)	21	0.2	1	5	MCL	Yes
27MW0031A	5/30/2012	-66.08	WG	SW8260B	1,4-DICHLOROBENZENE	2.7	0.19	1	5	MMCL	No
27MW0031A	5/30/2012	-66.08	WG	SW8260B	cis-1,2-DICHLOROETHENE	12	0.2	1	70	MCL	No
27MW0031A	5/30/2012	-66.08	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.7	0.19	1	5	MCL	No
27MW0031A	5/30/2012	-66.08	WG	SW8260B	TRICHLOROETHENE (TCE)	14	0.2	1	5	MCL	Yes
27MW0031A	5/30/2012	-66.08	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27MW0037A	6/6/2012	-35.69	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27MW0039A	9/4/2012	-44.54	WG	E524.2	1,1-DICHLOROETHANE	BRL	0.04	0.5	70	ORSG	No
27MW0039A	9/4/2012	-44.54	WG	E524.2	DICHLORODIFLUOROMETHANE	1.3	0.08	0.5	1,400	ORSG	No
27MW0040	9/4/2012	-58.56	WG	E524.2	DICHLORODIFLUOROMETHANE	BRL	0.08	0.5	1,400	ORSG	No
27MW0040Z	6/22/2012	-163.96	WG	SW8260B	TETRACHLOROETHENE (PCE)	2.6	0.19	1	5	MCL	No
27MW0040Z	6/22/2012	-163.96	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27MW0048	5/30/2012	-150.08	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW0048	5/30/2012	-150.08	WG	SW8260B	TETRACHLOROETHENE (PCE)	2	0.19	1	5	MCL	No
27MW0048	5/30/2012	-150.08	WG	SW8260B	TRICHLOROETHENE (TCE)	2.5	0.2	1	5	MCL	No
27MW0054	6/8/2012	-110.14	WG	SW8260B	TETRACHLOROETHENE (PCE)	2.6	0.19	1	5	MCL	No
27MW0054	6/8/2012	-110.14	WG	SW8260B	TRICHLOROETHENE (TCE)	1.6	0.2	1	5	MCL	No
27MW0054Z	6/8/2012	-121.59	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.2	0.19	1	5	MCL	No
27MW0054Z	6/8/2012	-121.59	WG	SW8260B	TRICHLOROETHENE (TCE)	2.7	0.2	1	5	MCL	No
27MW0055	6/29/2012	-110.49	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW0055	6/29/2012	-110.49	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
27MW0055	6/29/2012	-110.49	WG	SW8260B	TRICHLOROETHENE (TCE)	1.6	0.2	1	5	MCL	No
27MW0066	6/22/2012	-126.74	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
27MW0066	6/22/2012	-126.74	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
27MW0066	6/22/2012	-126.74	WG	SW8260B	TRICHLOROETHENE (TCE)	3.9	0.2	1	5	MCL	No
27MW0083	7/12/2012	-145.60	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW0083	7/12/2012	-145.60	WG	SW8260B	TETRACHLOROETHENE (PCE)	1.9	0.19	1	5	MCL	No
27MW0083	7/12/2012	-145.60	WG	SW8260B	TRICHLOROETHENE (TCE)	4	0.2	1	5	MCL	No
27MW0097B	5/30/2012	-108.33	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27MW0097B	5/30/2012	-108.33	WG	SW8260B	cis-1,2-DICHLOROETHENE	22	0.2	1	70	MCL	No
27MW0097B	5/30/2012	-108.33	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.1	0.19	1	5	MCL	No
27MW0097B	5/30/2012	-108.33	WG	SW8260B	TRICHLOROETHENE (TCE)	7.5	0.2	1	5	MCL	Yes
27MW0097B	5/30/2012	-108.33	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27MW0101B	6/4/2012	-27.09	WG	SW8260B	TETRACHLOROETHENE (PCE)	5.2	0.19	1	5	MCL	Yes
27MW0101B	6/4/2012	-27.09	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27MW0102A	6/4/2012	-65.69	WG	SW8260B	1,4-DICHLOROBENZENE	1.5	0.19	1	5	MMCL	No
27MW0102A	6/4/2012	-65.69	WG	SW8260B	cis-1,2-DICHLOROETHENE	9.7	0.2	1	70	MCL	No
27MW0102A	6/4/2012	-65.69	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.1	0.19	1	5	MCL	No
27MW0102A	6/4/2012	-65.69	WG	SW8260B	TRICHLOROETHENE (TCE)	1.1	0.2	1	5	MCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	1,4-DICHLOROBENZENE	3.4	0.19	1	5	MMCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	CARBON TETRACHLORIDE	1.1	0.2	1	5	MCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	cis-1,2-DICHLOROETHENE	25	0.2	1	70	MCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	TETRACHLOROETHENE (PCE)	5.8	0.19	1	5	MCL	Yes
27MW0107A	6/4/2012	-124.29	WG	SW8260B	TRICHLOROETHENE (TCE)	4.2	0.2	1	5	MCL	No
27MW0107A	6/4/2012	-124.29	WG	SW8260B	VINYL CHLORIDE	1.7	0.2	1	2	MCL	No
27MW0108A	6/22/2012	-35.93	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW0108A	6/22/2012	-35.93	WG	SW8260B	cis-1,2-DICHLOROETHENE	1.3	0.2	1	70	MCL	No
27MW0108A	6/22/2012	-35.93	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27MW0108A	6/22/2012	-35.93	WG	SW8260B	TRICHLOROETHENE (TCE)	11	0.2	1	5	MCL	Yes
27MW0705	6/22/2012	63.08	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW1002A	6/4/2012	-95.81	WG	SW8260B	1,4-DICHLOROBENZENE	2.7	0.19	1	5	MMCL	No
27MW1002A	6/4/2012	-95.81	WG	SW8260B	cis-1,2-DICHLOROETHENE	10	0.2	1	70	MCL	No
27MW1002A	6/4/2012	-95.81	WG	SW8260B	TETRACHLOROETHENE (PCE)	6.2	0.19	1	5	MCL	Yes
27MW1002A	6/4/2012	-95.81	WG	SW8260B	TRICHLOROETHENE (TCE)	1.2	0.2	1	5	MCL	No
27MW1002A	6/4/2012	-95.81	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27MW1002B	6/4/2012	-15.74	WG	SW8260B	1,4-DICHLOROBENZENE	5	0.19	1	5	MMCL	No

Attachment A
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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27MW1002B	6/4/2012	-15.74	WG	SW8260B	cis-1,2-DICHLOROETHENE	11	0.2	1	70	MCL	No
27MW1002B	6/4/2012	-15.74	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.6	0.19	1	5	MCL	No
27MW1002B	6/4/2012	-15.74	WG	SW8260B	TRICHLOROETHENE (TCE)	1	0.2	1	5	MCL	No
27MW1002B	6/4/2012	-15.74	WG	SW8260B	VINYL CHLORIDE	1.1	0.2	1	2	MCL	No
27MW1003A	6/4/2012	-81.99	WG	SW8260B	1,4-DICHLOROBENZENE	BRL	0.19	1	5	MMCL	No
27MW1003A	6/4/2012	-81.99	WG	SW8260B	CARBON TETRACHLORIDE	1	0.2	1	5	MCL	No
27MW1003A	6/4/2012	-81.99	WG	SW8260B	cis-1,2-DICHLOROETHENE	10	0.2	1	70	MCL	No
27MW1003A	6/4/2012	-81.99	WG	SW8260B	TETRACHLOROETHENE (PCE)	3.8	0.19	1	5	MCL	No
27MW1003A	6/4/2012	-81.99	WG	SW8260B	TRICHLOROETHENE (TCE)	21	0.2	1	5	MCL	Yes
27MW1005A	6/4/2012	-124.34	WG	SW8260B	CARBON TETRACHLORIDE	6.3	0.2	1	5	MCL	Yes
27MW1005A	6/4/2012	-124.34	WG	SW8260B	TETRACHLOROETHENE (PCE)	12	0.19	1	5	MCL	Yes
27MW1005A	6/4/2012	-124.34	WG	SW8260B	TRICHLOROETHENE (TCE)	3.4	0.2	1	5	MCL	No
27MW1005B	6/4/2012	-59.52	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW1005B	6/4/2012	-59.52	WG	SW8260B	TETRACHLOROETHENE (PCE)	1	0.19	1	5	MCL	No
27MW1005B	6/4/2012	-59.52	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27MW1006A	6/1/2012	-116.13	WG	SW8260B	1,4-DICHLOROBENZENE	8	0.19	1	5	MMCL	Yes
27MW1006A	6/1/2012	-116.13	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW1006A	6/1/2012	-116.13	WG	SW8260B	cis-1,2-DICHLOROETHENE	22	0.2	1	70	MCL	No
27MW1006A	6/1/2012	-116.13	WG	SW8260B	TETRACHLOROETHENE (PCE)	4.8	0.19	1	5	MCL	No
27MW1006A	6/1/2012	-116.13	WG	SW8260B	TRICHLOROETHENE (TCE)	4.3	0.2	1	5	MCL	No
27MW1006A	6/1/2012	-116.13	WG	SW8260B	VINYL CHLORIDE	2.1	0.2	1	2	MCL	Yes
27MW1007B	6/6/2012	-61.63	WG	SW8260B	CARBON TETRACHLORIDE	7.2	0.2	1	5	MCL	Yes
27MW1007B	6/6/2012	-61.63	WG	SW8260B	cis-1,2-DICHLOROETHENE	5.9	0.2	1	70	MCL	No
27MW1007B	6/6/2012	-61.63	WG	SW8260B	TETRACHLOROETHENE (PCE)	11	0.19	1	5	MCL	Yes
27MW1007B	6/6/2012	-61.63	WG	SW8260B	TRICHLOROETHENE (TCE)	4.8	0.2	1	5	MCL	No
27MW1010A	6/22/2012	-52.48	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW1010A	6/22/2012	-52.48	WG	SW8260B	cis-1,2-DICHLOROETHENE	1.6	0.2	1	70	MCL	No
27MW1010A	6/22/2012	-52.48	WG	SW8260B	TRICHLOROETHENE (TCE)	5.3	0.2	1	5	MCL	Yes
27MW1012B	5/30/2012	-44.56	WG	SW8260B	1,4-DICHLOROBENZENE	1.8	0.19	1	5	MMCL	No
27MW1012B	5/30/2012	-44.56	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW1012B	5/30/2012	-44.56	WG	SW8260B	cis-1,2-DICHLOROETHENE	17	0.2	1	70	MCL	No
27MW1012B	5/30/2012	-44.56	WG	SW8260B	TETRACHLOROETHENE (PCE)	8.4	0.19	1	5	MCL	Yes
27MW1012B	5/30/2012	-44.56	WG	SW8260B	TRICHLOROETHENE (TCE)	25	0.2	1	5	MCL	Yes
27MW1012B	5/30/2012	-44.56	WG	SW8260B	VINYL CHLORIDE	1	0.2	1	2	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	1,4-DICHLOROBENZENE	4.3	0.19	1	5	MMCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	cis-1,2-DICHLOROETHENE	11	0.2	1	70	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	TETRACHLOROETHENE (PCE)	2.8	0.19	1	5	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	TRICHLOROETHENE (TCE)	1.6	0.2	1	5	MCL	No
27MW1013B	5/30/2012	-80.83	WG	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27MW1014A	6/12/2012	-39.84	WG	SW8260B	1,4-DICHLOROBENZENE	6.2	0.19	1	5	MMCL	Yes
27MW1014A	6/12/2012	-39.84	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW1014A	6/12/2012	-39.84	WG	SW8260B	cis-1,2-DICHLOROETHENE	10	0.2	1	70	MCL	No
27MW1014A	6/12/2012	-39.84	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27MW1014A	6/12/2012	-39.84	WG	SW8260B	VINYL CHLORIDE	1.5	0.2	1	2	MCL	No
27MW2061	6/22/2012	58.55	WG	SW8260B	CARBON TETRACHLORIDE	1.6	0.2	1	5	MCL	No
27MW2061	6/22/2012	58.55	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27MW2071	6/14/2012	58.27	WG	SW8260B	TRICHLOROETHENE (TCE)	4.1	0.2	1	5	MCL	No
27MW2119A	6/6/2012	-109.46	WG	SW8260B	1,4-DICHLOROBENZENE	1.4	0.19	1	5	MMCL	No
27MW2119A	6/6/2012	-109.46	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW2119A	6/6/2012	-109.46	WG	SW8260B	CARBON TETRACHLORIDE	4.7	0.2	1	5	MCL	No
27MW2119A	6/6/2012	-109.46	WG	SW8260B	cis-1,2-DICHLOROETHENE	18	0.2	1	70	MCL	No
27MW2119A	6/6/2012	-109.46	WG	SW8260B	TETRACHLOROETHENE (PCE)	7.1	0.19	1	5	MCL	Yes
27MW2119A	6/6/2012	-109.46	WG	SW8260B	TRICHLOROETHENE (TCE)	12	0.2	1	5	MCL	Yes
27MW2119A	6/6/2012	-109.46	WG	SW8260B	VINYL CHLORIDE	1.1	0.2	1	2	MCL	No
27MW2120A	6/1/2012	-74.40	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW2120A	6/1/2012	-74.40	WG	SW8260B	cis-1,2-DICHLOROETHENE	2.7	0.2	1	70	MCL	No
27MW2120A	6/1/2012	-74.40	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27MW2120A	6/1/2012	-74.40	WG	SW8260B	TRICHLOROETHENE (TCE)	6.1	0.2	1	5	MCL	Yes
27MW2135A	6/14/2012	-73.62	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27MW2135A	6/14/2012	-73.62	WG	SW8260B	cis-1,2-DICHLOROETHENE	4.9	0.2	1	70	MCL	No
27MW2135A	6/14/2012	-73.62	WG	SW8260B	TETRACHLOROETHENE (PCE)	28	0.19	1	5	MCL	Yes
27MW2135A	6/14/2012	-73.62	WG	SW8260B	TRICHLOROETHENE (TCE)	88	0.2	1	5	MCL	Yes
27MW2136A	6/4/2012	-82.78	WG	SW8260B	1,4-DICHLOROBENZENE	5.5	0.19	1	5	MMCL	Yes
27MW2136A	6/4/2012	-82.78	WG	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27MW2136A	6/4/2012	-82.78	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27MW2136A	6/4/2012	-82.78	WG	SW8260B	cis-1,2-DICHLOROETHENE	42	0.2	1	70	MCL	No
27MW2136A	6/4/2012	-82.78	WG	SW8260B	TETRACHLOROETHENE (PCE)	9.1	0.19	1	5	MCL	Yes
27MW2136A	6/4/2012	-82.78	WG	SW8260B	TRICHLOROETHENE (TCE)	10	0.2	1	5	MCL	Yes
27MW2136A	6/4/2012	-82.78	WG	SW8260B	VINYL CHLORIDE	3.2	0.2	1	2	MCL	Yes
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.3	0.19	1	5	MMCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7.5	0.2	1	70	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.2	0.19	1	5	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	trans-1,2-DICHLOROETHENE	BRL	0.2	1	100	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27PLT01001 (INF)	1/30/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.4	0.19	1	5	MMCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.7	0.2	1	70	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.3	0.19	1	5	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27PLT01001 (INF)	2/27/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.5	0.19	1	5	MMCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.5	0.2	1	70	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.3	0.19	1	5	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27PLT01001 (INF)	3/27/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.2	0.19	1	5	MMCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.1	0.2	1	70	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3	0.19	1	5	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3	0.2	1	5	MCL	No
27PLT01001 (INF)	4/26/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.3	0.19	1	5	MMCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7.4	0.2	1	70	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.9	0.19	1	5	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	2.8	0.2	1	5	MCL	No
27PLT01001 (INF)	5/29/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.6	0.19	1	5	MMCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.4	0.2	1	70	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	2.9	0.2	1	5	MCL	No
27PLT01001 (INF)	6/26/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.9	0.19	1	5	MMCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	BENZENE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	14	0.2	1	70	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	4.2	0.19	1	5	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.2	0.2	1	5	MCL	No
27PLT01001 (INF)	7/18/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No

Attachment A
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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.4	0.19	1	5	MMCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.6	0.2	1	70	MCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3	0.19	1	5	MCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.4	0.2	1	5	MCL	No
27PLT01001 (INF)	8/28/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.4	0.19	1	5	MMCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.7	0.2	1	70	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.7	0.19	1	5	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.3	0.2	1	5	MCL	No
27PLT01001 (INF)	9/27/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	2	GW-1	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.3	0.19	1	5	MMCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7.2	0.2	1	70	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.7	0.19	1	5	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.1	0.2	1	5	MCL	No
27PLT01001 (INF)	11/28/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	1,2-DICHLOROBENZENE	BRL	0.16	1	600	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	1,4-DICHLOROBENZENE	1.3	0.19	1	5	MMCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.4	0.2	1	70	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.5	0.19	1	5	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.2	0.2	1	5	MCL	No
27PLT01001 (INF)	12/26/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01002 (MID)	1/30/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01002 (MID)	1/30/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7	0.2	1	70	MCL	No
27PLT01002 (MID)	1/30/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27PLT01002 (MID)	1/30/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01002 (MID)	2/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01002 (MID)	2/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01002 (MID)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.2	0.2	1	70	MCL	No
27PLT01002 (MID)	2/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7.9	0.2	1	70	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	1.3	0.2	1	5	MCL	No
27PLT01002 (MID)	3/27/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01002 (MID)	11/28/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01002 (MID)	11/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	7.3	0.2	1	70	MCL	No
27PLT01002 (MID)	12/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01002 (MID)	12/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	9.3	0.2	1	70	MCL	No
27PLT01003 (MID)	4/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01003 (MID)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	6.5	0.2	1	70	MCL	No
27PLT01003 (MID)	4/26/2012	N/A	WW	SW8260B	VINYL CHLORIDE	BRL	0.2	1	2	MCL	No
27PLT01003 (MID)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01003 (MID)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	6.5	0.2	1	70	MCL	No
27PLT01003 (MID)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	6/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.3	0.2	1	70	MCL	No
27PLT01003 (MID)	6/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27PLT01003 (MID)	6/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	7/18/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01003 (MID)	7/18/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	10	0.2	1	70	MCL	No
27PLT01003 (MID)	7/18/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27PLT01003 (MID)	7/18/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	8/28/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01003 (MID)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	8.5	0.2	1	70	MCL	No
27PLT01003 (MID)	8/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27PLT01003 (MID)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	1	0.2	1	5	MCL	No
27PLT01003 (MID)	9/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01003 (MID)	9/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27PLT01003 (MID)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	9	0.2	1	70	MCL	No
27PLT01003 (MID)	9/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
27PLT01003 (MID)	9/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	1.1	0.2	1	5	MCL	No
27PLT01004 (EFF)	2/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.7	0.2	1	70	MCL	No
27PLT01004 (EFF)	3/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	3.8	0.2	1	70	MCL	No
27PLT01004 (EFF)	6/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	7/18/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	8/28/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	2.2	0.2	1	70	MCL	No
27PLT01004 (EFF)	9/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
27PLT01004 (EFF)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	6.4	0.2	1	70	MCL	No
27RBH07	4/5/2012	N/A	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27SW0005	4/5/2012	N/A	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
27SW0005	4/5/2012	N/A	WG	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
27SW0005	4/5/2012	N/A	WG	SW8260B	TETRACHLOROETHENE (PCE)	2.7	0.19	1	5	MCL	No
27SW0005	4/5/2012	N/A	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
27SW0006	4/5/2012	N/A	WS	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	14000	AWQC	No
27SW0006	4/5/2012	N/A	WS	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	1100	AWQC	No
27SW0006	4/5/2012	N/A	WS	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	190	AWQC	No
69DP1722	6/11/2012	-14.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1722	6/12/2012	-24.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1722	6/12/2012	-34.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1722	6/12/2012	-34.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1722	6/12/2012	-44.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1722	6/12/2012	-44.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1722	6/12/2012	-44.50	WA	SW8260B	TRICHLOROETHENE (TCE)	1	0.2	1	5	MCL	No
69DP1722	6/12/2012	-54.50	WA	SW8260B	CARBON TETRACHLORIDE	3.1	0.2	1	5	MCL	No
69DP1722	6/12/2012	-54.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	1.6	0.19	1	5	MCL	No
69DP1722	6/12/2012	-54.50	WA	SW8260B	TRICHLOROETHENE (TCE)	6.8	0.2	1	5	MCL	Yes
69DP1722	6/12/2012	-64.50	WA	SW8260B	CARBON TETRACHLORIDE	3.4	0.2	1	5	MCL	No
69DP1722	6/12/2012	-64.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	1.7	0.19	1	5	MCL	No
69DP1722	6/12/2012	-64.50	WA	SW8260B	TRICHLOROETHENE (TCE)	9.3	0.2	1	5	MCL	Yes
69DP1722	6/13/2012	-74.50	WA	SW8260B	CARBON TETRACHLORIDE	1	0.2	1	5	MCL	No
69DP1722	6/13/2012	-74.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1722	6/13/2012	-74.50	WA	SW8260B	TRICHLOROETHENE (TCE)	7.4	0.2	1	5	MCL	Yes
69DP1722	6/13/2012	-84.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1722	6/13/2012	-84.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1722	6/13/2012	-84.50	WA	SW8260B	TRICHLOROETHENE (TCE)	7	0.2	1	5	MCL	Yes
69DP1722	6/13/2012	-94.50	WA	SW8260B	CARBON TETRACHLORIDE	1.7	0.2	1	5	MCL	No
69DP1722	6/13/2012	-94.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	1.1	0.19	1	5	MCL	No
69DP1722	6/13/2012	-94.50	WA	SW8260B	TRICHLOROETHENE (TCE)	12	0.2	1	5	MCL	Yes
69DP1722	6/14/2012	-104.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1723	6/19/2012	-8.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1723	6/19/2012	-18.50	WA	SW8260B	TRICHLOROETHENE (TCE)	1	0.2	1	5	MCL	No
69DP1723	6/19/2012	-28.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1723	6/19/2012	-38.50	WA	SW8260B	TRICHLOROETHENE (TCE)	1.2	0.2	1	5	MCL	No
69DP1723	6/19/2012	-48.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1723	6/19/2012	-48.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1723	6/19/2012	-48.50	WA	SW8260B	TRICHLOROETHENE (TCE)	18	0.2	1	5	MCL	Yes
69DP1723	6/19/2012	-57.00	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1723	6/19/2012	-57.00	WA	SW8260B	TRICHLOROETHENE (TCE)	19	0.2	1	5	MCL	Yes
69DP1724	6/27/2012	-11.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-11.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1724	6/27/2012	-11.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-21.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-21.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1724	6/27/2012	-21.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-31.50	WA	SW8260B	CARBON TETRACHLORIDE	1.3	0.2	1	5	MCL	No
69DP1724	6/27/2012	-31.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	1	0.19	1	5	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
69DP1724	6/27/2012	-31.50	WA	SW8260B	TRICHLOROETHENE (TCE)	1.2	0.2	1	5	MCL	No
69DP1724	6/27/2012	-41.50	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-41.50	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1724	6/27/2012	-41.50	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-47.00	WA	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69DP1724	6/27/2012	-47.00	WA	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69DP1724	6/27/2012	-47.00	WA	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69MW1709B	6/1/2012	-26.75	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69MW1709B	6/1/2012	-26.75	WG	SW8260B	TRICHLOROETHENE (TCE)	2.3	0.2	1	5	MCL	No
69MW1710A	5/30/2012	-120.41	WG	SW8260B	CARBON TETRACHLORIDE	1.6	0.2	1	5	MCL	No
69MW1710A	5/30/2012	-120.41	WG	SW8260B	TETRACHLOROETHENE (PCE)	1.5	0.19	1	5	MCL	No
69MW1710A	5/30/2012	-120.41	WG	SW8260B	TRICHLOROETHENE (TCE)	12	0.2	1	5	MCL	Yes
69MW1712A	5/30/2012	-154.93	WG	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
69MW1713A	5/30/2012	-108.67	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69MW1713A	5/30/2012	-108.67	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69MW1713A	5/30/2012	-108.67	WG	SW8260B	TRICHLOROETHENE (TCE)	1.8	0.2	1	5	MCL	No
69MW1715A	6/1/2012	-134.76	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69MW1715A	6/1/2012	-134.76	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69MW1715A	6/1/2012	-134.76	WG	SW8260B	TRICHLOROETHENE (TCE)	6.5	0.2	1	5	MCL	Yes
69MW1715B	6/1/2012	-54.33	WG	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
69MW1715B	6/1/2012	-54.33	WG	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
69MW1715B	6/1/2012	-54.33	WG	SW8260B	TRICHLOROETHENE (TCE)	11	0.2	1	5	MCL	Yes
85PLT01004 (INF)	1/31/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	1/31/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	2	0.2	1	5	MCL	No
85PLT01004 (INF)	1/31/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT01004 (INF)	1/31/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.7	0.19	1	5	MCL	No
85PLT01004 (INF)	1/31/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	4	0.2	1	5	MCL	No
85PLT01004 (INF)	2/27/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	2/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	2	0.2	1	5	MCL	No
85PLT01004 (INF)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT01004 (INF)	2/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.6	0.19	1	5	MCL	No
85PLT01004 (INF)	2/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	4	0.2	1	5	MCL	No
85PLT01004 (INF)	3/27/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	3/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.9	0.2	1	5	MCL	No
85PLT01004 (INF)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT01004 (INF)	3/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
85PLT01004 (INF)	3/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.9	0.2	1	5	MCL	No
85PLT01004 (INF)	4/26/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	4/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.8	0.2	1	5	MCL	No
85PLT01004 (INF)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.7	0.2	1	70	MCL	No
85PLT01004 (INF)	4/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.3	0.19	1	5	MCL	No
85PLT01004 (INF)	4/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.9	0.2	1	5	MCL	No
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	2.3	0.2	1	5	MCL	No

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						All units = µg/L					
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	2	0.2	1	70	MCL	No
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.8	0.19	1	5	MCL	No
85PLT01004 (INF)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.5	0.2	1	5	MCL	No
85PLT01004 (INF)	6/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT01004 (INF)	6/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	2	0.2	1	5	MCL	No
85PLT01004 (INF)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.7	0.2	1	70	MCL	No
85PLT01004 (INF)	6/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.2	0.19	1	5	MCL	No
85PLT01004 (INF)	6/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.6	0.2	1	5	MCL	No
85PLT01004 (INF)	7/18/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	7/18/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.7	0.2	1	5	MCL	No
85PLT01004 (INF)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.6	0.2	1	70	MCL	No
85PLT01004 (INF)	7/18/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.1	0.19	1	5	MCL	No
85PLT01004 (INF)	7/18/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	4.2	0.2	1	5	MCL	No
85PLT01004 (INF)	8/28/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.9	0.2	1	5	MCL	No
85PLT01004 (INF)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT01004 (INF)	8/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.5	0.19	1	5	MCL	No
85PLT01004 (INF)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	4.2	0.2	1	5	MCL	No
85PLT01004 (INF)	9/27/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	9/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.9	0.2	1	5	MCL	No
85PLT01004 (INF)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT01004 (INF)	9/27/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.3	0.19	1	5	MCL	No
85PLT01004 (INF)	9/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.8	0.2	1	5	MCL	No
85PLT01004 (INF)	10/25/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	10/25/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.8	0.2	1	5	MCL	No
85PLT01004 (INF)	10/25/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.6	0.2	1	70	MCL	No
85PLT01004 (INF)	10/25/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.6	0.19	1	5	MCL	No
85PLT01004 (INF)	10/25/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.7	0.2	1	5	MCL	No
85PLT01004 (INF)	11/28/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT01004 (INF)	11/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.8	0.2	1	5	MCL	No
85PLT01004 (INF)	11/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.5	0.2	1	70	MCL	No
85PLT01004 (INF)	11/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	3.4	0.19	1	5	MCL	No
85PLT01004 (INF)	11/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.9	0.2	1	5	MCL	No
85PLT01004 (INF)	12/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	2.1	0.2	1	5	MCL	No
85PLT01004 (INF)	12/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.5	0.2	1	70	MCL	No
85PLT01004 (INF)	12/26/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	2.8	0.19	1	5	MCL	No
85PLT01004 (INF)	12/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	3.6	0.2	1	5	MCL	No
85PLT01005 (EFF)	1/31/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT01005 (EFF)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT01005 (EFF)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No

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Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
85PLT01005 (EFF)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	7/18/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT01005 (EFF)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT01005 (EFF)	7/18/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT01005 (EFF)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT01005 (EFF)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03101 (MID)	1/31/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03101 (MID)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03101 (MID)	3/27/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03101 (MID)	3/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.1	0.2	1	70	MCL	No
85PLT03101 (MID)	4/26/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03101 (MID)	4/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03101 (MID)	4/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.5	0.2	1	70	MCL	No
85PLT03101 (MID)	4/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	5/29/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03101 (MID)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03101 (MID)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.2	0.2	1	5	MCL	No
85PLT03101 (MID)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.7	0.2	1	70	MCL	No
85PLT03101 (MID)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03101 (MID)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03101 (MID)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	9/27/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03101 (MID)	9/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.3	0.2	1	70	MCL	No
85PLT03101 (MID)	9/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03101 (MID)	10/25/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03101 (MID)	10/25/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.2	0.2	1	5	MCL	No
85PLT03101 (MID)	10/25/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.4	0.2	1	70	MCL	No
85PLT03101 (MID)	10/25/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	1/31/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	1/31/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.2	0.2	1	70	MCL	No
85PLT03102 (MID)	1/31/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	2/27/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03102 (MID)	2/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.3	0.2	1	5	MCL	No
85PLT03102 (MID)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.8	0.2	1	70	MCL	No
85PLT03102 (MID)	2/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03102 (MID)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03102 (MID)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03102 (MID)	6/26/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No

Attachment A
Comparison of Detected Concentrations in LF-1/CS-23 Groundwater, Surface Water, and Treatment Plant Samples to Applicable Standards
LF-1/CS-23 2012 Summary Letter Report

Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
85PLT03102 (MID)	6/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03102 (MID)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.4	0.2	1	70	MCL	No
85PLT03102 (MID)	7/18/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03102 (MID)	7/18/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	7/18/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.5	0.2	1	70	MCL	No
85PLT03102 (MID)	7/18/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03102 (MID)	8/28/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03102 (MID)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.3	0.2	1	5	MCL	No
85PLT03102 (MID)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.2	0.2	1	70	MCL	No
85PLT03102 (MID)	8/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
85PLT03102 (MID)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	1.1	0.2	1	5	MCL	No
85PLT03102 (MID)	11/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03201 (MID)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03201 (MID)	2/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03201 (MID)	3/27/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	4/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03201 (MID)	4/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03201 (MID)	4/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03201 (MID)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03201 (MID)	5/29/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	6/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03201 (MID)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.1	0.2	1	70	MCL	No
85PLT03201 (MID)	6/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03201 (MID)	8/28/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03201 (MID)	8/28/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.4	0.2	1	5	MCL	No
85PLT03201 (MID)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.2	0.2	1	70	MCL	No
85PLT03201 (MID)	8/28/2012	N/A	WW	SW8260B	TETRACHLOROETHENE (PCE)	BRL	0.19	1	5	MCL	No
85PLT03201 (MID)	8/28/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	1.2	0.2	1	5	MCL	No
85PLT03201 (MID)	12/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	1/31/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	2/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	3/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03202 (MID)	3/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	4/26/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03202 (MID)	4/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03202 (MID)	4/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	5/29/2012	N/A	WW	SW8260B	1,1-DICHLOROETHANE	BRL	0.2	1	70	ORSG	No
85PLT03202 (MID)	5/29/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03202 (MID)	5/29/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	6/26/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1	0.2	1	5	MCL	No
85PLT03202 (MID)	6/26/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.3	0.2	1	70	MCL	No

Attachment A
Comparison of Detected Concentrations in LF-1/CS-23 Groundwater, Surface Water, and Treatment Plant Samples to Applicable Standards
LF-1/CS-23 2012 Summary Letter Report

Location Identification	Sample Date	Sample Elevation (ft msl)	Matrix	Test	Analyte	Result	DL	RL	Standard	Type[1,2,3,4]	Standard Exceeded?
						All units = µg/L					
85PLT03202 (MID)	6/26/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
85PLT03202 (MID)	8/28/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	9/27/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	BRL	0.2	1	5	MCL	No
85PLT03202 (MID)	9/27/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	BRL	0.2	1	70	MCL	No
85PLT03202 (MID)	10/25/2012	N/A	WW	SW8260B	1,1,1-TRICHLOROETHANE	BRL	0.18	1	200	MCL	No
85PLT03202 (MID)	10/25/2012	N/A	WW	SW8260B	CARBON TETRACHLORIDE	1.1	0.2	1	5	MCL	No
85PLT03202 (MID)	10/25/2012	N/A	WW	SW8260B	cis-1,2-DICHLOROETHENE	1.3	0.2	1	70	MCL	No
85PLT03202 (MID)	10/25/2012	N/A	WW	SW8260B	TRICHLOROETHENE (TCE)	BRL	0.2	1	5	MCL	No
BHW493181	5/30/2012	-175.46	WG	SW8260B	1,1,2,2-TETRACHLOROETHANE	2	0.13	1	2	GW-1	No
BHW493181	5/30/2012	-175.46	WG	SW8260B	TETRACHLOROETHENE (PCE)	1.5	0.19	1	5	MCL	No
BHW493181	5/30/2012	-175.46	WG	SW8260B	TRICHLOROETHENE (TCE)	6.2	0.2	1	5	MCL	Yes
BOMW0008	9/4/2012	30.94	WG	E524.2	DICHLORODIFLUOROMETHANE	BRL	0.08	0.5	1,400	ORSG	No
BOMW0009	9/4/2012	15.04	WG	E524.2	1,1-DICHLOROETHANE	BRL	0.04	0.5	70	ORSG	No
BOMW0009	9/4/2012	15.04	WG	E524.2	DICHLORODIFLUOROMETHANE	1.5	0.08	0.5	1,400	ORSG	No

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse

Notes:

1. MCLs from Environmental Protection Agency (EPA) web page,http://water.epa.gov/drink/contaminants/ and HAs from http://water.epa.gov/action/advisories/drinking/drinking_index.cfm
2. MMCLs and ORSGs from Massachusetts Department of Environmental Protection (MassDEP) web page, http://www.mass.gov/dep/water/dwstand.pdf.
3. GW-1 = MassDEP MCP Method 1 Groundwater-1 Standards from MassDEP web page http://www.mass.gov/dep/cleanup/laws/0974_2.htm.
4. AWQC = MassDEP Ambient Water Quality Criteria Standards from 310 CMR 40.1516(1) at MassDEP web page http://www.mass.gov/dep/cleanup/laws/nrs07.pdf.

Detections of tert-butyl methyl ether (MTBE), chloromethane, and the trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and bromoform) are not included because they are not considered MMR plume-related compounds.

Key:

AWQC = MassDEP Ambient Water Quality Criteria
BRL = below the reporting limit
DL = detection limit
EFF = treatment plant effluent
ft msl = feet mean sea level
GW-1 = MCP Groundwater-1 Standard
HA = EPA Health Advisory
INF = treatment plant influent
J = estimated concentration
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MID = treatment plant midpoint sample
MMCL = Massachusetts MCL
N/A = not applicable
NA = not available
ORSG = Office of Research and Standards Guidance (MassDEP)
RL = reporting limit
WA = groundwater sample collected via direct push drilling
WG = groundwater sample
WS = surface water
WW = plant water
µg/L = micrograms per liter

ATTACHMENT B

Landfill Monitoring Results

Landfill Cover Settlement Survey Results

Landfill Gas Probe Screening Data

Landfill Inspection Report

Landfill Inspection Photographs

Landfill Cover Settlement Survey Results

Attachment B
Landfill Cover Settlement Survey Results
LF-1/CS-23 2012 Summary Letter Report

Gas Vent Identification	Baseline Data (April 1997)				Round 18 Data (March 2012)				Change from Baseline		
	Survey Date	Baseline Northing (feet)	Baseline Easting (feet)	Baseline Elevation (ft msl)	Survey Date	Round 18 Northing (feet)	Round 18 Easting (feet)	Round 18 Elevation (ft msl)	Northing Change (feet)	Easting Change (feet)	Elevation Change (feet)
27VGC0001	4/29/1997	245490.57	856978.68	130.27	3/28/2012	245490.61	856978.45	130.26	0.0	0.1	0.0
27VGC0003	4/29/1997	245655.99	857055.76	135.91	3/28/2012	245656.00	857055.66	135.86	0.0	0.0	0.0
27VGC0007	4/29/1997	245930.85	857123.20	142.33	3/28/2012	245930.83	857123.10	142.12	0.0	0.1	0.0
27VGC0009	4/29/1997	246033.90	857295.29	149.23	3/28/2012	246033.92	857295.21	149.16	0.1	0.1	-0.1
27VGC0011	4/29/1997	246197.38	857371.34	153.55	3/28/2012	246197.23	857371.31	153.28	0.1	0.0	0.0
27VGC0015	4/29/1997	246316.84	857371.12	155.96	3/28/2012	246316.87	857371.08	155.91	0.0	0.0	-0.1
27VGC0018	4/29/1997	246424.48	857368.06	157.53	3/28/2012	246424.49	857368.03	157.44	0.0	0.0	-0.1
27VGC0071	4/29/1997	246491.54	857400.17	157.68	3/28/2012	246491.56	857400.16	157.61	0.0	0.0	-0.1
27VGC0023	4/29/1997	246639.43	857400.19	153.69	3/28/2012	246639.47	857400.18	153.65	0.0	0.0	-0.1
27VGC0028	4/29/1997	246834.57	857444.26	147.57	3/28/2012	246834.59	857444.25	147.52	0.0	0.0	0.0
27VGB0030	4/29/1997	247082.03	857916.28	148.51	3/28/2012	247082.07	857916.29	148.52	0.0	0.0	0.0
27VGB0033	4/29/1997	247019.73	858106.73	159.98	3/28/2012	247019.74	858106.76	159.83	0.0	0.0	0.0
27VGB0038	4/29/1997	246968.09	858261.48	168.30	3/28/2012	246968.10	858261.52	168.00	0.0	0.0	0.0
27VGB0039	4/29/1997	246956.25	858298.27	168.45	3/28/2012	246956.31	858298.28	168.17	0.0	0.0	0.0
27VGB0042	4/29/1997	246893.99	858487.27	165.48	3/28/2012	246894.05	858487.31	165.49	0.0	0.0	-0.1
27VGB0045	4/29/1997	246830.51	858678.05	158.61	3/28/2012	246830.46	858677.98	158.63	0.0	0.0	-0.1
27VGB0047	4/29/1997	246766.55	858867.42	148.00	3/28/2012	246766.46	858867.37	148.01	0.0	0.0	0.0
27VGA0052	4/29/1997	247446.20	858882.92	151.44	3/28/2012	247446.16	858882.88	151.26	0.0	0.0	0.0
27VGA0055	4/29/1997	247331.33	859047.40	160.42	3/28/2012	247331.32	859047.30	160.33	0.0	0.0	0.0
27VGA0058	4/29/1997	247215.42	859211.49	167.59	3/28/2012	247215.37	859211.48	167.45	0.0	0.0	-0.1
27VGA0062	4/29/1997	247148.93	859303.81	167.72	3/28/2012	247148.82	859303.84	167.63	0.0	0.0	-0.1
27VGA0063	4/29/1997	247100.80	859373.97	165.70	3/28/2012	247100.69	859374.07	165.62	0.0	0.0	-0.1
27VGA0068	4/29/1997	246983.81	859537.36	156.50	3/28/2012	246983.75	859537.44	156.33	0.0	0.0	0.0
						Average change since baseline survey[1]:			0.02	0.02	-0.05

Data Source: LF-1 Settlement Study Plan provided by Norwood Engineering Co., Inc., File # 5783-03, dated 12 April 2012.

Notes:

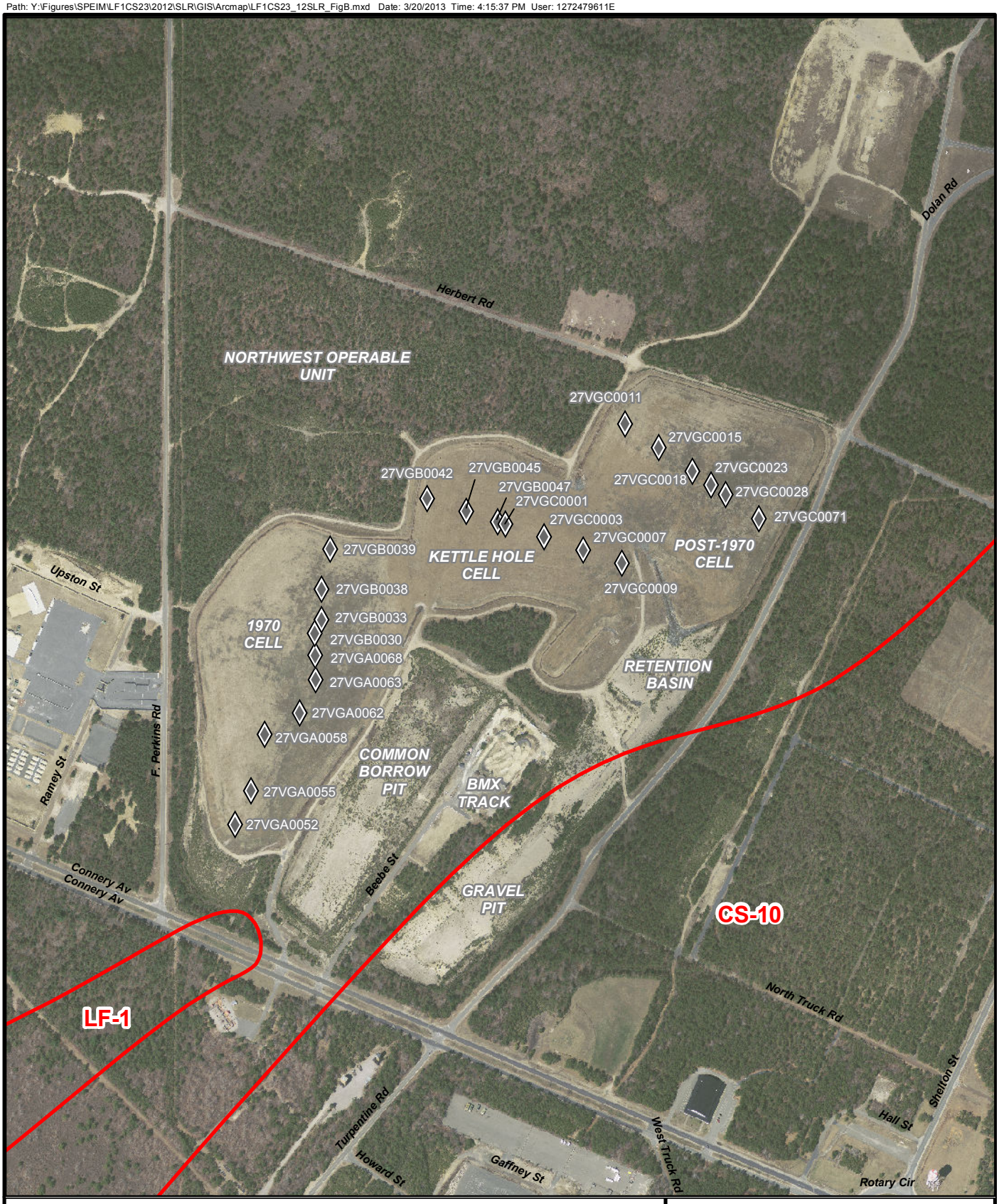
[1] The change in vertical and horizontal measurements at all measured locations indicate that the LF-1 landfill cover has not deviated from the 3% design slope.

These data compare the baseline (April 1997) and the eighteenth round (March 2012) of survey results.

The survey points have been recorded in the North American Datum 1927 and National Geodetic Vertical Datum 1929.

Horizontal differences less than 0.3 foot are considered within the range of measurement error.

ft msl = feet mean sea level



Legend

- Vapor Probe Location
- Plume Boundary

Data Source: AFCEC, MMR-AFCEC Data Warehouse
2009 Aerial Photography from MassGIS

0 3,200 6,400
Feet

FIGURE B

LANDFILL SETTLEMENT SURVEY LOCATIONS

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 Summary Letter Report

CH2MHILL

Landfill Gas Probe Screening Data

322 East Inner Road
Otis ANG Base MA 02542
(508) 968-4670 x 5613
(508) 968-4476

AFCEE/MMR IRP

Fax

To:	Mark Dakers	**From:**	Rose Forbes
Fax:	(508) 947-6557	**Pages:**	2 including cover page
Phone:	(508) 946-2847	**Date:**	2/3/2012
Re:	Quarterly Gas Probe Results	**CC:**	[Click **here** and type name]

☐ **Urgent** ☑ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:** Hi Mark – Attached are the results from the latest semiannual gas probe monitoring event (27VP0001 through 27VP0012), performed on 17 Jan 2012, for Landfill-1 (LF-1) at the Massachusetts Military Reservation (MMR). The results of three previous monitoring events are included for comparison. No landfill gas (i.e. methane) was detected in any of the vapor probe locations. A figure showing the locations of the landfill gas probes has been submitted previously.

Please contact me if you have any questions.

Thank you.

Rose H. Forbes, P.E.
HQAFCEE/MMR
322 East Inner Road
Otis ANG Base MA 02542
comm phone: (508) 968-4670 x 5613
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rose.forbes@us.af.mil

Landfill Gas Probe Screening Data

Gas Probe Identification	08/03/10					01/25/11					07/21/11					01/17/12				
	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID
	RL = 25	RL= 1.25				RL = 25	RL= 1.25				RL = 25	RL= 1.25				RL = 25	RL= 1.25			
27VP0001 (10')	0	0	2.3	18.7	0	0	0	1.8	19.3	0	0	0	2.9	17.6	0	0	0	3.0	18.2	0
27VP0001 (20')	0	0	7.1	11.9	0	0	0	2.0	19.4	1.0	0	0	4.2	14.8	0.8	0	0	8.0	9.9	0.6
27VP0002 (10')	0	0	1.2	19.8	11.9	0	0	1.6	19.6	2.8	0	0	1.6	19.2	0.5	0	0	3.5	17.1	0.1
27VP0002 (20')	0	0	7.6	11.0	5.0	0	0	4.0	16.6	0.4	1	0	4.3	14.8	0.1	0	0	10.6	6.3	0.2
27VP0003 (10')	0	0	1.9	19.0	4.2	0	0	0.7	20.9	0	0	0	3.6	16.6	0.1	0	0	3.2	18.9	0.1
27VP0003 (20')	0	0	8.1	11.9	3.6	0	0	2.9	18.8	0.3	0	0	6.1	13.1	0.2	0	0	10.0	9.9	0.1
27VP0004 (10')	0	0	1.6	19.7	0	0	0	0.4	21.3	0.1	0	0	2.5	17.9	0	0	0	2.6	19.5	0
27VP0004 (20')	0	0	4.8	15.6	0	0	0	2.9	18.6	0.1	0	0	3.7	16.2	0	0	0	6.4	13.6	0.1
27VP0005 (10')	0	0	2.2	18.3	0	0	0	0.8	20.5	0.2	0	0	2.4	17.8	0	0	0	3.3	18.0	0
27VP0005 (20')	0	0	5.2	14.0	0	0	0	2.3	18.8	0.3	0	0	3.2	16.5	0.1	0	0	5.5	14.2	0
27VP0006 (10')	0	0	2.9	18.4	2.4	0	0	1.3	20.1	0.1	0	0	2.5	18.3	0.1	0	0	3.3	18.6	0
27VP0006 (20')	0	0	3.7	17.2	1.8	0	0	1.5	20.0	0	0	0	1.3	19.3	0.2	0	0	3.9	17.7	0
27VP0007 (10')	0	0	3.7	17.4	1.7	0	0	1.4	19.7	0	0	0	2.7	18.1	0.1	0	0	4.0	16.8	0.1
27VP0007 (20')	0	0	3.4	17.6	0	0	0	1.7	19.5	0.3	0	0	1.9	18.8	0.2	0	0	4.3	16.2	0.2
27VP0008 (10')	0	0	2.3	18.7	0	0	0	1.3	19.7	0	0	0	2.3	18.7	0	0	0	2.5	18.8	0
27VP0008 (20')	0	0	1.7	18.7	0	0	0	0.7	20.3	0	1	0	1.3	19.2	0	0	0	2.9	18.2	0
27VP0009 (10')	0	0	2.3	18.4	0	0	0	1.9	19.3	0.1	0	0	2.3	18.3	11.8	0	0	3.2	17.7	0
27VP0009 (20')	0	0	3.9	15.7	0	0	0	3.0	17.8	0.1	0	0	1.8	18.7	4.8	0	0	4.8	14.8	0.1
27VP0010 (10')	0	0	1.7	19.7	1.0	0	0	0.6	21.0	0	1	0	1.9	19.5	0	0	0	2.0	20.3	0
27VP0010 (20')	0	0	1.4	19.7	2.9	0	0	0.3	21.3	0	0	0	0.7	20.2	0.1	0	0	2.2	20.1	0.1
27VP0011 (10')	0	0	1.5	19.7	0	0	0	0.2	21.6	0	0	0	1.6	19.4	0	0	0	1.7	20.5	0
27VP0011 (20')	0	0	1.3	19.9	0	0	0	0.3	21.5	0	1	0	0.6	20.2	0.1	0	0	2.1	20.1	0
27VP0012 (10')	0	0	1.5	19.7	0	0	0	0.4	21.4	0	0	0	1.8	19.4	0	0	0	1.9	20.4	0
27VP0012 (20')	0	0	1.9	19.1	0	0	0	0.5	21.3	0	0	0	1.4	19.6	0.1	0	0	2.9	19.2	0
27GS2206 (10')																				

Data Source: AFCEE, Jan 2012, MMR-AFCEE Data Warehouse.

Notes:

(10') = feet below ground surface
CH_4 = methane (%)
CO_2 = carbon dioxide (%)
LEL = lower explosive limit (%) (LEL for methane = 5% methane by volume)
NS = not sampled
O_2 = oxygen (%)
PID = photoionization detector (parts per million)
RL = regulatory limit for landfill gas at the property line

322 East Inner Road
Otis ANG Base MA 02542
(508) 968-4670 x 5613
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AFCEE/MMR IRP

Fax

To:	Mark Dakers	**From:**	Rose Forbes
Fax:	(508) 947-6557	**Pages:**	2 including cover page
Phone:	(508) 946-2847	**Date:**	7/24/2012
Re:	Quarterly Gas Probe Results	**CC:**	[Click **here** and type name]

☐ **Urgent** ☑ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:** Hi Mark – Attached are the results from the latest semiannual gas probe monitoring event (27VP0001 through 27VP0012), performed on 18 Jul 2012, for Landfill-1 (LF-1) at the Massachusetts Military Reservation (MMR). The results of three previous monitoring events are included for comparison. No landfill gas (i.e. methane) was detected in any of the vapor probe locations. A figure showing the locations of the landfill gas probes has been submitted previously.

Please contact me if you have any questions.

Thank you.

Rose H. Forbes, P.E.
HQAFCEE/MMR
322 East Inner Road
Otis ANG Base MA 02542
comm phone: (508) 968-4670 x 5613
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rose.forbes@us.af.mil

Landfill Gas Probe Screening Data

Gas Probe Identification	01/25/11					07/21/11					01/17/12					07/18/12				
	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID	LEL	CH_4	CO_2	O_2	PID
	RL = 25	RL= 1.25				RL = 25	RL= 1.25				RL = 25	RL= 1.25				RL = 25	RL= 1.25			
27VP0001 (10')	0	0	1.8	19.3	0	0	0	2.9	17.6	0	0	0	3.0	18.2	0	0	0	1.6	18.4	0.1
27VP0001 (20')	0	0	2.0	19.4	1.0	0	0	4.2	14.8	0.8	0	0	8.0	9.9	0.6	0	0	6.7	10.6	0.1
27VP0002 (10')	0	0	1.6	19.6	2.8	0	0	1.6	19.2	0.5	0	0	3.5	17.1	0.1	0	0	1.6	17.8	0.1
27VP0002 (20')	0	0	4.0	16.6	0.4	1	0	4.3	14.8	0.1	0	0	10.6	6.3	0.2	0	0	7.8	8.6	0.1
27VP0003 (10')	0	0	0.7	20.9	0	0	0	3.6	16.6	0.1	0	0	3.2	18.9	0.1	0	0	2.9	16.5	0.1
27VP0003 (20')	0	0	2.9	18.8	0.3	0	0	6.1	13.1	0.2	0	0	10.0	9.9	0.1	0	0	10.6	6.8	0.3
27VP0004 (10')	0	0	0.4	21.3	0.1	0	0	2.5	17.9	0	0	0	2.6	19.5	0	0	0	2.0	17.6	0.1
27VP0004 (20')	0	0	2.9	18.6	0.1	0	0	3.7	16.2	0	0	0	6.4	13.6	0.1	0	0	5.8	12.8	0.1
27VP0005 (10')	0	0	0.8	20.5	0.2	0	0	2.4	17.8	0	0	0	3.3	18.0	0	0	0	2.1	16.8	0.2
27VP0005 (20')	0	0	2.3	18.8	0.3	0	0	3.2	16.5	0.1	0	0	5.5	14.2	0	0	0	5.1	12.5	0.2
27VP0006 (10')	0	0	1.3	20.1	0.1	0	0	2.5	18.3	0.1	0	0	3.3	18.6	0	0	0	2.7	17.1	0.1
27VP0006 (20')	0	0	1.5	20.0	0	0	0	1.3	19.3	0.2	0	0	3.9	17.7	0	0	0	3.0	16.2	0.3
27VP0007 (10')	0	0	1.4	19.7	0	0	0	2.7	18.1	0.1	0	0	4.0	16.8	0.1	0	0	3.5	15.9	0.1
27VP0007 (20')	0	0	1.7	19.5	0.3	0	0	1.9	18.8	0.2	0	0	4.3	16.2	0.2	0	0	3.5	15.5	0.1
27VP0008 (10')	0	0	1.3	19.7	0	0	0	2.3	18.7	0	0	0	2.5	18.8	0	0	0	2.4	18.2	0.2
27VP0008 (20')	0	0	0.7	20.3	0	1	0	1.3	19.2	0	0	0	2.9	18.2	0	0	0	2.1	17.6	0.2
27VP0009 (10')	0	0	1.9	19.3	0.1	0	0	2.3	18.3	11.8	0	0	3.2	17.7	0	0	0	2.2	18.0	0.2
27VP0009 (20')	0	0	3.0	17.8	0.1	0	0	1.8	18.7	4.8	0	0	4.8	14.8	0.1	0	0	4.0	15.1	0.2
27VP0010 (10')	0	0	0.6	21.0	0	1	0	1.9	19.5	0	0	0	2.0	20.3	0	0	0	1.5	19.2	0.3
27VP0010 (20')	0	0	0.3	21.3	0	0	0	0.7	20.2	0.1	0	0	2.2	20.1	0.1	0	0	1.4	19.1	0.1
27VP0011 (10')	0	0	0.2	21.6	0	0	0	1.6	19.4	0	0	0	1.7	20.5	0	0	0	1.6	19.0	0.3
27VP0011 (20')	0	0	0.3	21.5	0	1	0	0.6	20.2	0.1	0	0	2.1	20.1	0	0	0	1.4	19.0	0.2
27VP0012 (10')	0	0	0.4	21.4	0	0	0	1.8	19.4	0	0	0	1.9	20.4	0	0	0	1.5	18.6	0.1
27VP0012 (20')	0	0	0.5	21.3	0	0	0	1.4	19.6	0.1	0	0	2.9	19.2	0	0	0	2.0	17.6	0.3
27GS2206 (10')																				

Data Source: AFCEE, July 2012, MMR-AFCEE Data Warehouse.

Notes:

(10') = feet below ground surface
CH_4 = methane (%)
CO_2 = carbon dioxide (%)
LEL = lower explosive limit (%) (LEL for methane = 5% methane by volume)
NS = not sampled
O_2 = oxygen (%)
PID = photoionization detector (parts per million)
RL = regulatory limit for landfill gas at the property line

Landfill Inspection Report

Attachment B
LF-1 2012 Site Monitoring Inspection Form
LF-1/CS-23 2012 Summary Letter Report

Category	Sub-categories (if needed)	Requirements	Action Completion Description and Date	Corrective Action Requirement (to be performed within 60 days of site inspection)	Corrective Actions Completed
Settlement Survey	**Settlement Survey**	Settlement Survey is required annually, generally completed in the spring.	Completed on 28 March 2012.	Should settlement damage the cover, repairs will be made to ensure the cover system layers remain continuous, positive slopes are maintained, and ponding does not occur.	N/A
	Topographic survey	Complete topographic survey is required every 5 years.	Completed over the following 3 days: 28 March, 04 April, and 05 April 2012.	Same as above.	N/A
Mowing of Cap		Mowing of the cap is required annually, performed in the fall in order to minimize disturbance in the spring (bird nesting).	Completed in early September 2012 by the 102nd Base Civil Engineering.	None	N/A
Landfill inspection conducted in October 2012, details provided below.					
Site Monitoring	**Post-1970 Cell (Cell A)**	Perform annually to monitor the following: Location and dimension of erosion rill, depressions, seeps and burrows; Condition of vegetation; Erosion of surface cover; Condition of settlement points.	Cell A is in good condition and was recently mowed. There are no depressions or other signs of settling, and no erosion rills or animal burrows were observed. There are some ruts from where the lawn mowing tractor got stuck on the side of the hill by GVA 65 (Figure B-1). Vegetation adjacent to monitoring well 27MW0013A,B is heavily overgrown (Figure B-2).	Areas that have poor vegetative growth should be reloamed and reseeded. Animal burrows in cover will be repaired (filled with appropriate material) and revegetated. Erosion of cover system will be repaired as needed to provide a long-term solution to such damage. Reconstruction shall be made with appropriate materials and in accordance with cover construction specifications. The final grades of areas shall comply with the design grades and slopes.	Ruts will be repaired and those areas will be reseeded in the Spring 2013. Vegetation was removed from around 27MW0013A/B in November 2012.
	Kettle Hole Cell (Cell B)		Cell B is in good condition and was recently mowed. There are no depressions or other signs of settling, and no erosion rills or animal burrows were observed.		N/A
	1970 Cell (Cell C)		Cell C is in good condition and was recently mowed. There are no depressions or other signs of settling, and no erosion rills or animal burrows were observed. There are tire ruts on the west side of cell C (Figures B-3 and B-4). There is also a bush growing next to GVB 41 (Figure B-5). The vegetation is overgrown in most of the drainage ditches, but water appears to be moving freely (Figure B-6). A wooden survey stake was found in the cap (Figure B-7).		Ruts will be repaired and those areas will be reseeded in the Spring 2013. Vegetation was removed from gas vent in November 2012.
	NWOU		The NWOU is a dense forest of pitch pine and scrub oak with a thick understory vegetation. The vegetation looks healthy. There are no signs of erosion in the NWOU. There are pitch pines (some over 6 feet tall) growing up in the road that runs parallel to Frank Perkins on west side of NWOU.		N/A
	Drainage ditches, detention and retention basins	To be performed annually: Note condition of drainage ditches and measure depth of sediment deposits in the detention and retention basins.	All perimeter drainage ditches are overgrown with vegetation (Figure B-8), but water still moves freely through ditches. The borrow pit is full of scrub pine, and there are no signs of erosion on the side hills. The drainage ditch between Cell C and Cell B is heavily vegetated, but water flows freely through the ditches (Figure B-9). The retention basin has scrub pine growing in it, and the drainage ditch to the retention basin is heavily overgrown (Figure B-10). There are no indications of side hill erosion in the retention basin.	Drainage ditches will be kept clear and free-draining. Sediment deposits in the detention and retention basins will be removed periodically before sediment depths reach 12 inches.	Drainage ditches will need to be cleared of vegetation in 2013.
	Gas Vent, Groundwater and Gas Probe Monitoring Wells Maintenance	To be performed annually and/or during gas vent monitoring: Inspect steel protective hinges, locks, ID markings on each well, well caps, seals and grouting.	Gas vents and monitoring wells are in good condition. There is one monitoring well and one gas vent location with vegetation that required removal (Figures B-2 and B-5).	Inspect the steel protective hinges as needed, replace locks as necessary, renew ID markings if necessary, and replace caps, seals and grouting as necessary.	Vegetation at gas vents and monitoring well were removed in November 2012.
	Roadway Maintenance	To be performed annually: Note condition of roadways.	All roads are in good condition with no pot holes, ruts or erosion. Some small scrub pine are starting to grow along the western perimeter road.	Pot holes, ruts and erosion in roadway will be repaired as needed, and reloaming and reseeding of side slopes will be done as necessary. On an annual basis, gravel surface material will be added, shaped and compacted as needed.	Small trees in road should be removed in 2013.
	Fence Maintenance	To be performed annually and/or during gas vent monitoring: Note condition of perimeter fence, gates, locks and signs.	The perimeter fence, gates, locks and signs are in good condition. Small saplings and shrubs are starting to grow along the fence line in areas that were previously cleared in 2009 (Figures B-11, B-12 and B-13). One downed tree fell against the fence along Turpentine Road, but did not cause any damage to fence (Figure B-14). Several small animal burrows were observed under the fence but none are very big or affect the integrity of the fence.	Routine maintenance will include lubricating gate hinges and replacing locks and signs as needed. Maintenance and repairs on an as-needed basis will be implemented to rectify holes in the chain-link fabric, or erosion rills or animal burrows identified beneath the fence during site monitoring.	A few small trees were removed from the fence line in November 2012, but the entire fence line should be mowed and trees should be removed (including the tree leaning on the fence, Figure B-14) in 2013.

Key:
MW = monitoring well
NWOU = Northwest Operable Unit
N/A = not applicable

Landfill Inspection Photographs

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FIGURE B-1

TRACTOR RUTS ON CELL A

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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FIGURE B-2

VEGETATION NEXT TO 27MW0013A,B

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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FIGURE B-3

TIRE RUTS ON THE WEST SIDE OF CELL C

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FIGURE B-4

TIRE RUTS ON THE WEST SIDE OF CELL C

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FIGURE B-5

VEGETATION NEXT TO GVB 41

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FIGURE B-6

VEGETATION OVERGROWTH IN DRAINAGE DITCH ON CELL C

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FIGURE B-7

STAKE ON CELL C

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FIGURE B-8

PERIMETER DRAINAGE DITCH WITH OVERGROWN VEGETATION

AFCEC - Massachusetts Military Reservation

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FIGURE B-9

DRAINAGE DITCH BETWEEN CELLS B AND C

AFCEC - Massachusetts Military Reservation
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FIGURE B-10

RETENTION BASIN DRAINAGE DITCH

AFCEC - Massachusetts Military Reservation

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FIGURE B-11

VEGETATION GROWTH ALONG FENCELINE

AFCEC - Massachusetts Military Reservation

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FIGURE B-12

VEGETATION GROWTH ALONG FENCELINE

AFCEC - Massachusetts Military Reservation

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FIGURE B-13

VEGETATION GROWTH ALONG FENCELINE

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FIGURE B-14

TREE LEANING ON FENCE

AFCEC - Massachusetts Military Reservation

LF-1/CS-23 2012 Summary Letter Report

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ATTACHMENT C
Bourne Public Water Supply Wells Historical Data

BOPWS0002

BOPWS0005

Bourne Public Water Supply Well #2 Historic Monitoring Results
LF-1/CS-23 2011 Summary Letter Report

Location	Date	Laboratory Analyses					
		PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
BOPWS0002	4/28/1987	ND	ND	ND	ND	ND	ND
BOPWS0002	8/16/1988	ND	ND	ND	ND	ND	ND
BOPWS0002	5/14/1990	ND	ND	ND	ND	ND	ND
BOPWS0002	6/5/1991	ND	ND	ND	ND	ND	ND
BOPWS0002	6/1/1992	ND	ND	ND	ND	ND	ND
BOPWS0002	2/19/1993	ND	ND	ND	ND	ND	ND
BOPWS0002	4/22/1993	ND	ND	ND	ND	ND	ND
BOPWS0002	8/27/1993	ND	ND	ND	ND	ND	ND
BOPWS0002	9/14/1993	ND	ND	ND	ND	ND	ND
BOPWS0002	10/13/1993	ND	ND	ND	ND	ND	ND
BOPWS0002	3/7/1994	ND	ND	ND	ND	ND	ND
BOPWS0002	10/3/1994	ND	ND	ND	ND	ND	ND
BOPWS0002	7/18/1995	ND	ND	ND	ND	ND	ND
BOPWS0002	8/30/1995	ND	ND	ND	ND	ND	ND
BOPWS0002	10/11/1995	ND	ND	ND	ND	ND	ND
BOPWS0002	11/18/1996	ND	ND	ND	ND	ND	ND
BOPWS0002	10/10/1997	ND	ND	ND	ND	ND	ND
BOPWS0002	7/21/1998	ND	ND	ND	ND	ND	ND
BOPWS0002	12/7/1998	ND	ND	ND	ND	ND	ND
BOPWS0002	6/17/1999	ND	ND	ND	ND	ND	ND
BOPWS0002	10/27/1999	ND	ND	ND	ND	ND	ND
BOPWS0002	7/28/2000	ND	ND	ND	ND	ND	ND
BOPWS0002	11/17/2000	ND	ND	ND	ND	ND	ND
BOPWS0002	10/23/2001	ND	ND	ND	ND	ND	ND
BOPWS0002	4/5/2002	ND	ND	ND	ND	ND	ND
BOPWS0002	7/22/2002	0.7	ND	ND	ND	ND	ND
BOPWS0002	8/5/2002	0.7	ND	ND	ND	ND	ND
BOPWS0002	8/26/2002	0.8	ND	ND	ND	ND	ND
BOPWS0002	10/21/2002	0.6	ND	ND	ND	ND	ND
BOPWS0002	1/8/2003	ND	ND	ND	ND	ND	ND
BOPWS0002	4/17/2003	0.5	ND	ND	ND	ND	ND
BOPWS0002	7/14/2003	0.6	ND	ND	ND	ND	ND
BOPWS0002	10/20/2003	ND	ND	ND	ND	ND	ND
BOPWS0002	1/12/2004	1.2	ND	ND	ND	ND	ND
BOPWS0002	7/19/2004	ND	ND	ND	ND	ND	ND
BOPWS0002	12/9/2004	ND	ND	ND	ND	ND	ND
BOPWS0002	8/1/2005	ND	ND	ND	ND	ND	ND
BOPWS0002	12/13/2005	ND	ND	ND	ND	ND	ND
BOPWS0002	10/24/2006	ND	ND	ND	ND	ND	ND
BOPWS0002	10/31/2007	ND	ND	ND	ND	ND	ND
BOPWS0002	10/31/2008	ND	ND	ND	ND	ND	ND
BOPWS0002	11/9/2009	ND	ND	ND	ND	ND	ND
BOPWS0002	12/8/2010	ND	ND	ND	ND	ND	ND
BOPWS0002	11/21/2011	ND	ND	ND	ND	ND	ND
BOPWS0002	10/22/2012	ND	ND	ND	ND	ND	ND

Data Source: Bourne Water District

Notes:
Analytical sampling methods for the specified parameters: VOC (E524.2 or 502.2).
Method detection limits and reporting limits for the contaminants of concern were 0.5 µg/L.

Key:
CCl_4 = carbon tetrachloride
DCB = dichlorobenzene
GW-1 = MCP Method 1 Groundwater-1 standard
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MMCL = Massachusetts MCL
ND = nondetect
PCE = tetrachloroethene
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride
µg/L = micrograms per liter

Bourne Public Water Supply Well #5 Historic Monitoring Results
LF-1/CS-23 2012 Summary Letter Report

Location	Date	Laboratory Analyses					
		PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
BOPWS0005	4/29/1987	0.5	ND	ND	ND	ND	ND
BOPWS0005	8/16/1988	ND	ND	ND	ND	ND	ND
BOPWS0005	6/6/1989	ND	ND	ND	ND	ND	ND
BOPWS0005	5/14/1990	ND	ND	ND	ND	ND	ND
BOPWS0005	6/5/1991	ND	ND	ND	ND	ND	ND
BOPWS0005	6/4/1992	0.5	ND	ND	ND	ND	ND
BOPWS0005	4/22/1993	ND	ND	ND	ND	ND	ND
BOPWS0005	8/27/1993	0.8	ND	ND	ND	ND	ND
BOPWS0005	8/31/1993	0.8	ND	ND	ND	ND	ND
BOPWS0005	11/12/1993	ND	NS	NS	NS	NS	NS
BOPWS0005	12/6/1993	ND	ND	ND	ND	ND	ND
BOPWS0005	1/11/1994	0.6	NS	NS	NS	NS	NS
BOPWS0005	3/7/1994	0.5	ND	ND	ND	ND	ND
BOPWS0005	6/6/1994	0.7	NS	NS	NS	NS	NS
BOPWS0005	7/18/1994	0.5	NS	NS	NS	NS	NS
BOPWS0005	8/15/1994	0.7	NS	NS	NS	NS	NS
BOPWS0005	10/3/1994	0.8	ND	ND	ND	ND	ND
BOPWS0005	11/7/1994	0.6	NS	NS	NS	NS	NS
BOPWS0005	1/3/1995	0.5	NS	NS	NS	NS	NS
BOPWS0005	3/6/1995	0.5	ND	ND	ND	ND	ND
BOPWS0005	3/28/1995	ND	ND	ND	ND	ND	ND
BOPWS0005	6/5/1995	ND	ND	ND	ND	ND	ND
BOPWS0005	7/18/1995	0.7	ND	ND	ND	ND	ND
BOPWS0005	8/30/1995	0.8	ND	ND	ND	ND	ND
BOPWS0005	10/11/1995	0.7	ND	ND	ND	ND	ND
BOPWS0005	11/20/1995	ND	ND	ND	ND	ND	ND
BOPWS0005	1/2/1996	0.7	ND	ND	ND	ND	ND
BOPWS0005	2/22/1996	0.5	ND	ND	ND	ND	ND
BOPWS0005	4/16/1996	0.5	ND	ND	ND	ND	ND
BOPWS0005	5/31/1996	0.6	ND	ND	ND	ND	ND
BOPWS0005	7/8/1996	0.6	ND	ND	ND	ND	ND
BOPWS0005	9/6/1996	0.5	ND	ND	ND	ND	ND
BOPWS0005	10/25/1996	0.7	ND	ND	ND	ND	ND
BOPWS0005	1/21/1997	ND	ND	ND	ND	ND	ND
BOPWS0005	3/11/1997	0.7	ND	ND	ND	ND	ND
BOPWS0005	5/20/1997	ND	ND	ND	ND	ND	ND
BOPWS0005	7/28/1997	0.8	ND	ND	ND	ND	ND
BOPWS0005	10/10/1997	0.6	ND	ND	ND	ND	ND
BOPWS0005	1/28/1998	0.5	ND	ND	ND	ND	ND
BOPWS0005	5/6/1998	0.6	ND	ND	ND	ND	ND
BOPWS0005	7/24/1998	1	ND	ND	ND	ND	ND
BOPWS0005	8/20/1998	1	ND	ND	ND	ND	ND
BOPWS0005	10/14/1998	1	ND	ND	ND	ND	ND
BOPWS0005	2/24/1999	ND	ND	ND	ND	ND	ND
BOPWS0005	4/13/1999	ND	ND	ND	ND	ND	ND
BOPWS0005	6/17/1999	1	ND	ND	ND	ND	ND
BOPWS0005	7/20/1999	0.8	ND	ND	ND	ND	ND
BOPWS0005	11/2/1999	0.6	ND	ND	ND	ND	ND
BOPWS0005	1/5/2000	ND	ND	ND	ND	ND	ND
BOPWS0005	4/5/2000	0.7	ND	ND	ND	ND	ND
BOPWS0005	7/13/2000	1	ND	ND	ND	ND	ND
BOPWS0005	7/28/2000	1.1	ND	ND	ND	ND	ND
BOPWS0005	10/18/2000	1	ND	ND	ND	ND	ND
BOPWS0005	1/8/2001	0.7	ND	ND	ND	ND	ND
BOPWS0005	4/5/2001	0.7	ND	ND	ND	ND	ND
BOPWS0005	7/3/2001	0.8	ND	ND	ND	ND	ND
BOPWS0005	10/23/2001	1.1	ND	ND	ND	ND	ND
BOPWS0005	1/22/2002	0.6	ND	ND	ND	ND	ND
BOPWS0005	4/5/2002	0.8	ND	ND	ND	ND	ND
BOPWS0005	5/10/2002	1.1	ND	ND	ND	ND	ND
BOPWS0005	6/13/2002	0.8	ND	ND	ND	ND	ND
BOPWS0005	7/22/2002	1.2	ND	ND	ND	ND	ND
BOPWS0005	8/5/2002	1.2	ND	ND	ND	ND	ND
BOPWS0005	8/26/2002	1.5	ND	ND	ND	ND	ND
BOPWS0005	10/21/2002	1	ND	ND	ND	ND	ND
BOPWS0005	1/8/2003	1	ND	ND	ND	ND	ND
BOPWS0005	4/17/2003	1	ND	ND	ND	ND	ND

Bourne Public Water Supply Well #5 Historic Monitoring Results
LF-1/CS-23 2012 Summary Letter Report

Location	Date	Laboratory Analyses					
		PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
BOPWS0005	7/14/2003	1	ND	ND	ND	ND	ND
BOPWS0005	10/20/2003	0.9	ND	ND	ND	ND	ND
BOPWS0005	1/12/2004	1.2	ND	ND	ND	ND	ND
BOPWS0005	4/28/2004	ND	ND	ND	ND	ND	ND
BOPWS0005	7/19/2004	0.6	ND	ND	ND	ND	ND
BOPWS0005	12/9/2004	0.6	ND	ND	ND	ND	ND
BOPWS0005	2/9/2005	ND	ND	ND	ND	ND	ND
BOPWS0005	4/25/2005	ND	ND	ND	ND	ND	ND
BOPWS0005	8/1/2005	ND	ND	ND	ND	ND	ND
BOPWS0005	10/18/2005	ND	ND	ND	ND	ND	ND
BOPWS0005	4/11/2006	ND	ND	ND	ND	ND	ND
BOPWS0005	7/27/2006	ND	ND	ND	ND	ND	ND
BOPWS0005	10/24/2006	ND	ND	ND	ND	ND	ND
BOPWS0005	10/30/2007	ND	ND	ND	ND	ND	ND
BOPWS0005	10/31/2008	ND	ND	ND	ND	ND	ND
BOPWS0005	11/9/2009	ND	ND	ND	ND	ND	ND
BOPWS0005	12/8/2010	ND	ND	ND	ND	ND	ND
BOPWS0005	11/21/2011	ND	ND	ND	ND	ND	ND
BOPWS0005	10/22/2012	ND	ND	ND	ND	ND	ND

Data Source: Bourne Water District

Notes:
EDB was analyzed for on 8/16/88, 7/18/95, 1/28/98. All results were ND.
Analytical sampling methods for the specified parameters: VOC (E524.2 or 502.2); EDB (E504 and E504.1).
Method detection limits and reporting limits for the contaminants of concern were 0.5 µg/L.

Key:
CCl_4 = carbon tetrachloride
DCB = dichlorobenzene
EDB = ethylene dibromide
GW-1 = MCP Method 1 Groundwater-1 standard
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MMCL = Massachusetts MCL
ND = nondetect
NS = not sampled
PCE = tetrachloroethene
TCE = trichloroethene
TeCA = tetrachloroethane
VC = vinyl chloride
µg/L = micrograms per liter

ATTACHMENT D

LF-1/CS-23 Project Notes

LF-1/CS-23 2011 PEST Modeling Results
420005-SPEIM-LF1/CS23-PRJNOT-003

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation
420005-SPEIM-LF1/CS-23-PRJNOT-006

CS-23 Direct Push Data Presentation
437075-SPEIM-CS23-PRJNOT-001

LF-1/CS-232012 Annual SPEIM Data Presentation
437075-SPEIM-LF1/CS23-PRJNOT-002

Confirmation Of: ☒ Meeting ☐ Change Notice ☐ General Project Note	Date Held: 16 March 2011 Location: IRP Conference Room Date Issued: 27 February 2013 Recorded By: Jason Dalrymple
Subject: **LF-1/CS-23 2011 PEST OPTIMIZATION MODELING RESULTS** *EPA#: 16 - OU 01D - LANDFILL-1 GW PLUME; 25 - CHEMICAL SPILL-23*	Issued By: Nigel Tindall CH2M HILL TECHNICAL SERVICES GROUP MANAGER

ITEM	REMARKS
1.0	**INTRODUCTION** This project note documents the Landfill-1/Chemical Spill-23 (LF-1/CS-23) Parameter Estimation (PEST) Optimization Modeling Results Data Presentation which included the following: a description of advanced optimization modeling techniques; the goals, targets and results of the PEST optimization modeling assessment conducted for the LF-1/CS-23 treatment system; and conclusions, recommendations and the path forward based on the modeling results. This information was presented to the regulatory agencies during the 16 March 2011 Technical Update meeting. The handouts for the presentation included one figure and presentation text slides. A transport simulation animation for the LF-1 and CS-23 plumes was also presented. The data presentation handouts are included as **Attachment A**. The transport simulation animation is available upon request from the Air Force Civil Engineer Center (AFCEC). The model setup, procedures and results for this PEST optimization effort are provided in the accompanying *Draft LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note (**Attachment B**). The results of a modeling evaluation that assessed the potential benefits of installing additional infrastructure at the LF-1/CS-23 remedial system are provided in the attached *Draft LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures and Results* Project Note (**Attachment C**). The Response to Comments Letter (RCL) associated with these two project notes is provided as **Attachment D**. Section 5 of this project note provides a brief summary of regulator comments and concerns that were discussed at various Technical Update meetings regarding the results of this PEST optimization modeling assessment, and an explanation of why the Air Force Center Engineering and the Environment (AFCEE) rescinded their proposal to implement the PEST optimized flow rates at LF-1/CS-23. The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) approvals of the RCL are provided as **Attachments E** and **F**, respectively.

ITEM	REMARKS
2.0	**BACKGROUND** The source of the LF-1 groundwater plume is the former base landfill that was closed in 1995. Three cells of the landfill were capped at that time and three older cells, known as the Northwest Operable Unit (NWOU), were left uncapped. The LF-1 plume extends from the landfill to approximately 18,000 feet to the west-southwest where the northern lobe discharges to Red Brook Harbor and the southern lobe discharges to Squeteague Harbor. The plume has a maximum width of approximately 3,500 feet and a maximum thickness of approximately 120 feet. The contaminants of concern (COCs) for the LF-1 plume include tetrachloroethene (PCE), trichloroethene (TCE), carbon tetrachloride **(**CCl_4), ethylene dibromide (EDB), 1,1,2,2-tetrachloroethane (TeCA), 1,4-dichlorobenzene (DCB), vinyl chloride (VC), and manganese (Mn). The LF-1 plume is comprised of three chemically distinct areas referred to as the northern plume lobe, the central plume lobe, and the southern plume lobe. The northern lobe is predominantly comprised of TCE with a minor component of TeCA; the central plume lobe is predominantly comprised of PCE; and the southern lobe by a mixture of PCE, TCE, CCl_4, and VC. EDB, 1,4-DCB, and Mn are less prevalent COCs that are detected in limited areas within the southern plume lobe (AFCEE 2011a). The selected remedy for the CS-23 groundwater plume provides for active treatment of the plume with an ETI system (AFCEE 2007b). The current LF-1/CS-23 remedial system is comprised of six LF-1 extraction wells, one LF-1 reinjection well, two CS-23 extraction wells, and two LF-1/CS-23 infiltration trenches. Since December 2006, the LF-1 and CS-23 extraction wells have been operating at optimized flow rates with 595 gallons per minute (gpm) being treated at the LF-1 treatment plant, and 1,350 gpm being treated through the LF-1/CS-23 treatment train at the Hunter Avenue Treatment Facility (HATF) (AFCEE 2011b). The close proximity of the LF-1 and CS-23 plumes and remedial systems warrant that the LF-1 and CS-23 System Performance and Ecological Impact Monitoring (SPEIM) programs be combined. Therefore, data collection, data assessment, groundwater modeling, and reporting are performed jointly under a combined LF-1/CS-23 SPEIM program. The SPEIM program was developed to monitor plume changes and to ensure the effective operation of the groundwater remediation system; monitoring networks are also evaluated and optimized through the SPEIM program. The current approved LF-1/CS-23 SPEIM network, including the analytical scope and methods, is presented in the *Comprehensive Long Term Monitoring Plan (CLTMP)*, which is available from the AFCEE.

ITEM	REMARKS
	The CS-23 plume has detached from its source area, which remains unidentified. The main body of the plume has migrated in a southwesterly direction, shifting toward a westerly direction at the leading edge. The CS-23 plume is approximately 5,600 feet long, with a maximum width of approximately 950 feet, and a maximum thickness of approximately 100 feet. The CS-23 COCs are TCE and CCl_4. The CS-23 plume is defined by Maximum Contaminant Level (MCL) exceedances of TCE; CCl_4 has not been detected in the CS-23 monitoring network above the MCL since February 2005 (AFCEE 2012). As presented in the LF-1 Record of Decision (ROD) (AFCEE 2007a), the selected remedy for the LF-1 groundwater plume provides for continued active treatment of the LF-1 plume with the existing extraction, treatment, and infiltration (ETI) system and expansion of the system to improve capture of the southern lobe at the base boundary (expansion implemented in 2006), Land Use Controls (LUCs), and the Bourne Water Provision. The selected remedy for the LF-1 source area (the 1970 cell, Post-1970 cell, and the kettle hole) provides for continued monitoring and maintenance of the existing landfill cover system with LUCs. The uncapped portion of the landfill, the NWOU, is not included in the LF-1 ROD. A decision document for the NWOU is planned for 2013.
3.0	**RESULTS AND CONCLUSIONS** A description of the PEST optimization modeling technique and the goals, targets and results of the PEST optimization modeling assessment conducted for the LF-1/CS-23 treatment system are provided in the attached data presentation (**Attachment A**) and project note (**Attachment B**). The results of this assessment indicate that: • AFCEE can lower lifecycle costs while meeting the remedial system performance objectives and maintain or reduce the restoration timeframe; • The capture zone assessment/model simulations indicate PEST optimized flows hydraulically capture the plumes upgradient of the base boundary (Figure 1 of **Attachment A**); • The implementation of PEST optimized flow rates would result in a system-wide flow reduction of approximately 300 gpm; • The current SPEIM network is sufficient to assess system performance; • The benefits of PEST vs. manual optimization: o PEST approach considers future changes in plume delineation and, therefore, predicts more realistic future flow rates in lifecycle cost estimates, and o PEST provides insight about future benefits from near term pumping strategies; • Implementing PEST optimized flows now will help lower costs in the future;

ITEM	REMARKS
	• PEST optimization results suggest a further potential flow reduction of approximately 600 gpm between 2015 to 2020 that is predicted to meet the remedial system performance objectives of hydraulic capture of the plume; • The operational scenario can and should be reassessed when warranted (i.e., when new data become available and/or the conceptual site model is updated); • The PEST model is already set up and can run optimization scenarios with minimal effort with new plume shells when they become available; • Drawdown at the wetlands and vernal pools is reduced with PEST optimized flow rates; • Restoration timeframes are not significantly reduced, however that is a result of remedial system design (i.e., have to wait for plume to migrate to extraction well fence), and not a shortcoming of this modeling evaluation.
4.0	**RECOMMENDATIONS** AFCEE provided the recommendation to implement the PEST optimized flow rates (2011 Scenario 01) at LF-1/CS-23 at the 16 March 2011 Technical Update meeting (**Attachment A**). The regulatory agencies provided verbal approval of that recommendation during the meeting and the PEST-optimized flow rates were implemented on 16 March 2011.
5.0	**REGULATOR COMMENTS AND CONCURRENCE** The regulatory agencies did not have comments at the 16 March 2011 Technical Update meeting, or at the follow-up meeting on 11 May 2011. However, the regulatory agencies did provide comments on the PEST optimization modeling evaluation results following their review of the *Draft LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures and Results* Project Note and the *Draft LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures and Results* Project Note. One RCL was prepared to address the comments received on both PEST project notes (**Attachment D**). EPA's predominant concerns were related to the model-predicted restoration timeframe using the PEST approach versus the timeframes presented in the ROD, as well as the reduction in model-predicted mass removal by the remedial system under the optimized scenarios that were simulated. Based on the nature of the review comments received on the PEST project notes and in discussions with the regulatory agencies during subsequent Technical Update meetings, AFCEE believed there was an over emphasis in the decision-making process placed on the long-term plume cleanup predictions generated by the LF-1/CS-23 groundwater modeling completed as part of the PEST evaluation. AFCEE presented monitoring data during follow-up Technical Update meetings which indicated that the recent PEST modeling predictions using the 2007 version of the plume shell over-predicted both plume extent and contaminant concentrations in the short-term (five years). This effect was likely compounded in the longer-term modeling results (greater than 20 years

ITEM	REMARKS
	out), increasing the uncertainty in the restoration timeframes predicted by the PEST modeling. This uncertainty contributed to the regulatory agencies hesitancy in accepting the PEST modeling approach and approval of the optimized flow rates. Therefore, AFCEE rescinded the proposal to implement PEST-optimized flow rates for the LF-1/CS-23 remedial system, and flows were returned to pre-PEST flow rates on 25 July 2012 (further details regarding flow rates are provided in the RCL, **Attachment D**). As a next step, AFCEE and the regulatory agencies agreed that a comprehensive sampling event should be performed at LF-1/CS-23 in 2013. These data will be used to update the LF-1/CS-23 plume shell and assess the performance of the remedial system. During this modeling exercise, optimization opportunities will also be evaluated. AFCEE asked to reserve an in-depth discussion regarding ROD goals, performance metrics, and the long-term iterative nature of optimization for future technical interchanges during the planning stage of the optimization evaluation.
6.0	**REFERENCES** AFCEE. 2012 (January). *Chemical Spill-23 Groundwater Plume Conceptual Site Model.* 420005-SPEIM-CS23-CSM-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA. _____. 2011a (May). *Landfill-1 Groundwater Plume Conceptual Site Model.* 404929-SPEIM-LF1-CSM-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA. _____. 2011b (April). *2011 Operations and Maintenance Plan for Groundwater Extraction and Treatment Systems and Wind Turbine*. 404929-O&M-MULTIPLE-OMPLN-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis ANG Base, MA. _____. 2007a (October). *Final Record of Decision for Landfill-1 Source Area and Groundwater*. A4P-J23-35BC02VA-M26-0001. Prepared by Jacobs Engineering Group Inc. for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA. _____. 2007b (October). *Final Record of Decision for Chemical Spill-23 Groundwater*. A4P-J23-35BC02VA-M26-0002. Prepared by Jacobs Engineering Group Inc. for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.

Attachments:

Attachment A: LF-1/CS-23 PEST Optimization Modeling Results Data Presentation, 16 March 2011 Technical Update Meeting
Attachment B: LF-1/CS-23 PEST Optimization Model Setup, Procedures, and Results Project Note
Attachment C: LF-1/CS-23 2011Additional Infrastructure PEST Optimization Model Setup, Procedures and Results Project Note
Attachment D: Response to Comments Letter on the *Draft LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures and Results* Project Note and the *Draft LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures and Results* Project Note
Attachment E: EPA RCL Approval Letter
Attachment F: MassDEP RCL Approval e-mail

ATTACHMENT A

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Overview

- Description of advanced optimization modeling techniques: Brute Force and PEST*
- Rationale for selecting LF-1/CS-23 plumes and adequacy of model/plume shells
- Goals/targets of PEST modeling approach
- Results of PEST optimization modeling for existing LF-1/CS-23 remedial system
- Conclusions, recommendations, and path forward

*PEST – parameter estimation

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Brute Force Optimization Modeling Technique

- Optimization algorithm based on particle capture using flow model
- Identifies which well captures the most particles, increases pumping rate
- Identifies well that captures next most, increases rate
- Repeats until all particles are captured
- Drawdown constraints can be incorporated
- Particles can be 'weighted' based on degree of contamination

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

PEST Optimization Modeling Technique

- Optimization algorithm based on multivariable approach; it is very flexible and adaptable to site-specific conditions
- Supports numerous target types (degree of capture, drawdown, plume reduction, time to reach cleanup goals, etc.)
- Model-independent
- Good at handling complex optimizations with multiple potentially competing metrics or targets
- Integrates flow and transport model

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Brute Force vs. PEST

- Brute Force
  - Target types are limited
  - Better at locating new extraction wells
  - Does not use transport model
- PEST
  - Multiple target types (capture, drawdown, plume reduction, time to reach cleanup goals, etc.)
  - Better at handling complex optimizations

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Using PEST at LF-1/CS-23

- Step 1:
  - Optimize the existing LF-1/CS-23 remedial system
  - Goal: Minimize LF-1/CS-23 remedial system lifecycle costs while meeting the remedial system design objective of plume containment at base boundary
- Step 2:
  - Assess additional infrastructure (i.e., extraction wells) at LF-1/CS-23
  - Goal: evaluate potential benefit of additional infrastructure in an effort to reduce remedial system lifecycle costs

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Why LF-1/CS-23

- One of the largest MMR plumes with a long restoration timeframe and high cost to complete
- Relatively simple wellfield design and well defined remedial goals
- Well defined plume, recent plume shells with limited uncertainty, recently calibrated groundwater model
- Remedial system that may benefit from additional infrastructure to reduce restoration timeframe

LF-1/CS-23 Groundwater Model

- Groundwater flow model converted to Modflow/MT3D
- Successfully recreated animations from LF-1/CS-23 2007 Technical Memorandum using converted model
- Sensitivity testing revealed inconsistencies between model predicted and actual monitoring well concentrations in some key areas
- Performed a focused recalibration to improve the predicted flow field
- Model and 2007 plume shells considered suitable to proceed with PEST optimization modeling

PEST Modeling Approach

In order to meet objective of this evaluation, need to define:

- Remediation targets
- Optimization targets
- Remedial design constraints

Remediation Targets

Typically ROD-defined objectives, such as:

- Capture of overall plume
- Plume reduction
- Limit adverse migration of dissolved contaminants

LF-1 & CS-23 Remedial System performance expectation from RODs:

- Containment of the LF-1 plume upgradient of a point approximately 800 feet west of the base boundary
- Capture of the CS-23 plume at the base boundary

Optimization Targets

Hard target examples:

- Lowest lifecycle cost through one or more of the following:
  - Minimize total volume treated
  - Maximize carbon utilization
  - Minimize energy consumption/greenhouse gas emissions
  - Minimize monitoring costs
- Restoration timeframe

Hard optimization target for LF-1/CS-23 is lowest lifecycle cost considering the elements listed above

Optimization Targets

Soft target examples:

- Drawdown/mounding
- Adverse plume migration
- Total-pumping

Soft optimization target for LF-1/CS-23 is to consider meeting TRET drawdown/mounding criteria for the nearby surface water bodies

Remedial Design Constraints

Physical limitations:

- Wellfield configuration
  - Number of extraction wells, maximum flow from a well, injection/infiltration location
- Treatment capacity limitations
  - Existing infrastructure or new infrastructure (i.e., mobile treatment units)

For LF-1/CS-23 optimization evaluation:

- Assess optimization of existing system first with no limit on flow (Step 1), evaluate additional infrastructure as Step 2

PEST Modeling Approach Summary – Step 1

- Use updated LF-1 model and 2007 plume shells
- PEST will adjust flow rates at each existing extraction well
  - To achieve remediation target (containment at base boundary);
  - while staying within remedial design constraints (existing system, no limit on flow);
  - and aiming for optimization targets (minimize total lifecycle costs)
- Each PEST iteration has numerous sensitivity runs to adjust flows

PEST Modeling Approach Summary

PEST repeats the following until plume cleanup is achieved:

A) Repeat in 5-year increments:
- Allocate pumping to wells
- Run flow model
- Run transport model
- Deactivate the clean wells

B) Compare model results with Remediation Targets (i.e., ROD objective) and Optimization Targets (i.e., minimize cost)

C) Adjust pumping of wells

PEST Modeling Approach Summary

PEST is very computationally intensive

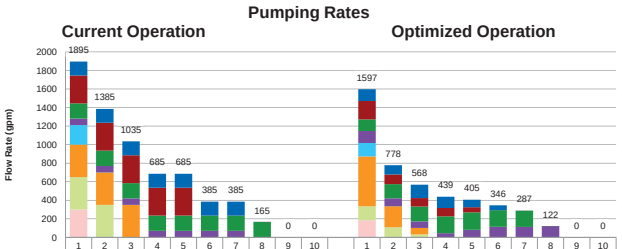
- For example, final PEST optimized scenario comprised of:
  - 19 optimization iterations (87-88 runs per iteration)
  - 1,666 model runs
  - 2 to 2.5 hours per run
  - 3,750 hrs of computation time (~ 5.2 months or ~ 156 days)
  - Using 20 CPUs in parallel, completed in about 13 days
  - ~ 12 times faster than using one CPU

PEST Modeling Results

- First set of results indicated a wide range of flow rates across the extraction wells – high rate at one well
- Revealed potential flaw in original cost estimating assumption
  - Original assumption of linear relationship between electrical cost and flow rate at each well was too simplistic
- QC check using Pipe-Flo revealed estimates could be up to 50% off
- Significant issue since the modeling decision logic is based on cost
- Incorporated Pipe-Flo into PEST modeling algorithm for more accurate electrical cost estimates
- Re-ran optimization scenarios with improved cost estimating approach

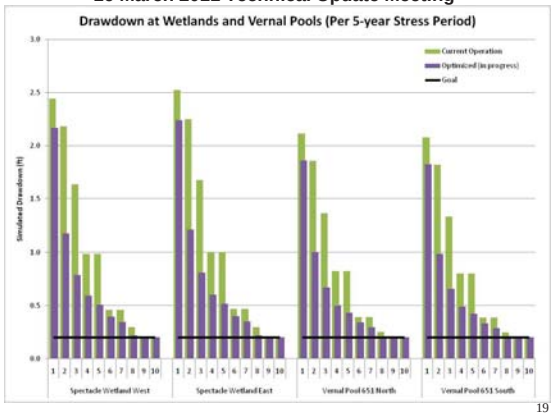
PEST Modeling Results

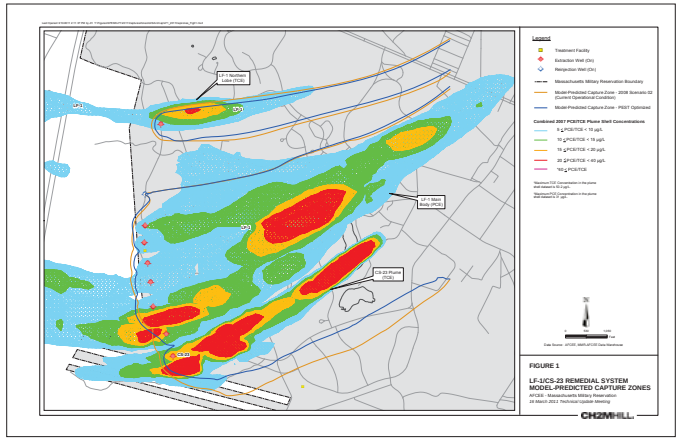
- Flow rate graph/table comparing current projected pumping rates vs. PEST optimized pumping rates
- Drawdown graph for the wetlands and vernal pools
- Cost graph depicting projected current operational costs vs. optimized operational costs
- Capture zone analysis comparing the extent of hydraulic capture for current operational condition vs. optimized operational condition
- Transport simulation comparing current operational condition vs. optimized operational condition



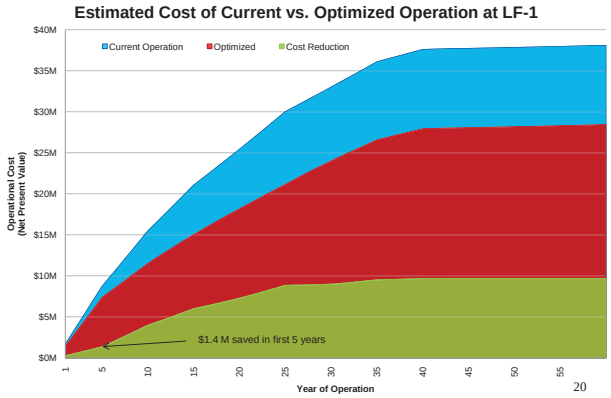
	Current Operation										Optimized Operation									
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
27EW0001	150	150	150	150	150	150	150	0	0	0	127	100	145	122	80	53	0	0	0	0
27EW0002	300	300	300	300	300	0	0	0	0	0	198	105	92	90	55	0	0	0	0	0
27EW0003	165	165	165	165	165	165	165	165	0	0	126	152	159	181	189	179	175	0	0	0
27EW0004	70	70	70	70	70	70	70	0	0	0	129	85	71	45	81	114	112	121	0	0
27EW0005	210	0	0	0	0	0	0	0	0	0	143	0	0	0	0	0	0	0	0	0
27EW0006	350	350	350	0	0	0	0	0	0	0	538	227	70	0	0	0	0	0	0	0
27EW0007	350	350	0	0	0	0	0	0	0	0	151	109	32	0	0	0	0	0	0	0
27EW0008	300	0	0	0	0	0	0	0	0	0	184	0	0	0	0	0	0	0	0	0
TOTAL	1895	1385	1035	685	685	385	385	165	0	0	1597	778	568	439	405	346	287	122	0	0

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting





LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting



LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Summary and Conclusions

- Results indicate that AFCEE can lower lifecycle costs while meeting remedial system performance objectives
- Capture zone assessment/model simulations indicate PEST optimized flows hydraulically capture the plumes
- Optimization would result in a system wide flow reduction of ~300 gpm
- Current SPEIM network sufficient to assess system performance
- Benefits of PEST vs. manual optimization:
  - PEST approach considers future changes in plume delineation and, therefore, more realistic future flow rates in lifecycle cost estimates
  - PEST provides insight about future benefits from near term pumping strategies

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Summary and Conclusions

- Implementing PEST optimized flows now will help lower costs in the future
- Results suggest a further potential flow reduction of ~ 600 gpm over years 5-10
- Operational scenario reassessed when warranted
- PEST model already set up – can run with new plume shells when available

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Summary and Conclusions

- Drawdown at the wetlands and vernal pools is reduced with PEST optimized flow rates
- Restoration timeframes are not significantly reduced
  - Result of remedial system design; i.e., have to wait for plume to migrate to extraction well fence
- Step 2 of PEST modeling evaluation will assess the potential benefit of additional infrastructure
- Step 2 is underway and expected to be completed this summer

LF-1/CS-23 PEST Optimization Modeling Results
16 March 2011 Technical Update Meeting

Recommendations and Path Forward

- Implement PEST optimized flow rates as 2011 Scenario 01
  - Document in project note
- Continue to review SPEIM data to evaluate effectiveness of the new operational scenario, and provide updates at Technical Update Meetings
- Complete Step 2 of this evaluation

ATTACHMENT B

CH2MHILL	DRAFT PROJECT NOTE	TASK ORDER 0300
		PROJECT NO. 420005
AFCEE **SPEIM/LTM/O&M** **Otis ANG Base, Massachusetts** **Contract FA8903-08-D-8769-0300**	**DOCUMENT CONTROL NUMBER:** **420005-SPEIM-LF1/CS23-PRJNOT-004** **CDRL A001k**	PAGE 1 OF 18

Confirmation Of:	Date Held: Not Applicable
☐ Meeting	Location: Not Applicable
☐ Change Notice	Date Issued:
☒ General Project Note	Recorded By: Michael Basial
Subject: **LF-1/CS-23 2011 PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS**	Issued By: Nigel Tindall
EPA#: 16 - OU 01D - LANDFILL-1 GW PLUME; 25 - CHEMICAL SPILL-23	CH2M HILL TECHNICAL SERVICES GROUP MANAGER

ITEM	REMARKS
1.0	**INTRODUCTION** This project note documents the setup, procedures and results for a Parameter Estimation (PEST) optimization modeling assessment of the Landfill-1/Chemical Spill-23 (LF-1/CS-23) remedial systems that was performed between August 2009 and February 2011. The goal of the optimization assessment was to identify an operating strategy that would minimize the total lifecycle costs of the treatment system while meeting the remedial design objective of plume containment at the base boundary. The results of this modeling assessment were presented to the regulatory agencies at the 16 March 2011 Technical Update meeting with the recommendation to implement a new operational scenario (2011 Scenario 01) at LF-1/CS-23, which was verbally approved by the regulatory agencies that day. The presentation materials and results presented at the 16 March 2011 meeting are provided with the accompanying *LF-1/CS-23 2011 PEST Optimization Modeling Results* Project Note (AFCEE 2012), which also provides background information for the LF-1 and CS-23 plumes.
2.0	**REMEDIAL SYSTEM OPTIMIZATION METHODOLOGY** The most common technique for performing a remedial system optimization assessment at the Massachusetts Military Reservation (MMR) under the System Performance and Ecological Impact Monitoring (SPEIM) program is by using the existing groundwater flow and transport models to: (i) produce estimates of the extent of hydraulic capture (i.e., a capture zone assessment); and/or (ii) perform predictive fate and transport modeling (AFCEE 2011a). Performing a modeling-based capture zone assessment is a straightforward, relatively quick method to evaluate the estimated extent of hydraulic capture of a remedial system under specified operating conditions (i.e., rates of extraction and reinjection). The disadvantages of this technique are the inability to view the fate and transport of the plume over time or to update restoration timeframe predictions. It is also not possible to predict remedial system performance under different operational scenarios by performing a capture zone assessment alone.

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	Fate and transport modeling provides the ability to perform a more thorough optimization evaluation and comparison of selected operational scenarios by predicting the following: 1. Fate and transport of the plume, 2. Remedial system performance (influent concentrations, mass removal), 3. Remedial system operational timeframe, 4. Aquifer restoration timeframe, and 5. Contaminant concentrations at individual monitoring wells. The preferred approach is often a combination of both methods. The modeling-based capture zone assessment allows the Air Force Center for Engineering and the Environment (AFCEE) to choose the most efficient operational scenario that provides hydraulic capture of the plume being evaluated. The transport simulations created for each operational scenario will provide a view of the predicted fate and transport of the plume over time, updated operational and aquifer restoration timeframe estimates, and predicted system performance metrics. However, for the optimization of a complex, multi-well remedial system, this groundwater modeling technique is somewhat labor intensive. Generally a series of transport modeling runs are created for a number of different flow scenarios, and through trial and error and professional judgment, the most efficient operational scenario is determined for the remedial system given the current depiction of the plume (i.e., the plume shell) at that time. When performing groundwater modeling in this manner, the future adjustment of flow rates in response to predicted changes in plume geometry is not considered, other than turning extraction wells off as estimated contaminant of concern (COC) concentrations decrease below their respective cleanup standards near the extraction wells. In addition, the remedial system has not been optimized with respect to the total cost of long-term operation in this type of assessment. Engaging in such an exercise manually would be extremely labor-intensive and time-consuming due to long model run times and complicated changes in plume behavior in response to changing flow rates. The exercise becomes increasingly complex as more extraction and reinjection wells/infiltration trenches are considered. Recent advances in automatic calibration/optimization technology and the availability of parallel computation (many computers simultaneously working on the same problem) have made the automated optimization of the LF-1/CS-23 remedial system technically practical, and make it possible to optimize the remedial system on the basis of total operational cost over several decades. The objective of this remedial system optimization was to minimize the total lifecycle costs of the remedial action while meeting the remedial design objective of plume containment at the base boundary while maintaining or improving the restoration timeframe. The following sections provide: a description of how the groundwater flow model was converted to a better type of model (for this evaluation); a description of how and why the model was recalibrated; definitions of the remediation targets, optimization targets, and remedial design constraints for this evaluation; assumptions behind cost calculations; the results of this evaluation.

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2.1	**Conversion of the Groundwater Flow Model and the Fate and Transport Model** In 2005, the LF-1 groundwater flow model domain was expanded southward to include the CS-23 plume, and the enlarged model was renamed the LF-1/CS-23 model and used to support the CS-23 wellfield design effort (AFCEE 2006). That evaluation resulted in the installation of three new extraction wells (27EW0006, 27EW0007, and 27EW0008) and the Hunter Avenue Treatment Facility (HATF) East and West infiltration trenches in 2006. Early in 2006, the northern portion of the LF-1/CS-23 model was readjusted in a recalibration effort that was focused on the area around extraction well 27EW0005 (AFCEE 2007c). The expanded LF-1/CS-23 remedial system with three new extraction wells (eight total) and two new infiltration trenches began operating in December 2006 (Figure 1). Having the expanded system in operation provided the opportunity to collect hydraulic data in the southern LF-1 and CS-23 areas which were used to check the accuracy of the expanded groundwater model, particularly in the portions of the aquifer most influenced by the new extraction wells and infiltration trenches and, if necessary, to recalibrate it. Accordingly, a hydraulic test was conducted in April 2007, which included the collection of synoptic water level measurements throughout the LF-1/CS-23 area and a monitored shutdown and restart of the entire remedial system. Using this information, together with data from a more comprehensive synoptic monitoring round conducted in June 2004, the LF-1/CS-23 groundwater model was recalibrated as documented in the *Final Landfill-1/Chemical Spill-23 2007 Plume Update Technical Memorandum* (AFCEE 2009). The 2007 recalibrated LF-1/CS-23 groundwater flow model was the basis for this optimization exercise. The model code used to simulate groundwater flow was changed for this optimization effort. The previous version of the model used MODFLOW-SURFACT (HydroGeoLogic 2008) to simulate the flow of groundwater at the site. The current version of the model uses the U.S. Geological Survey (USGS) groundwater flow code MODFLOW-2000 (USGS 2000). This change allowed the simultaneous use of numerous computers for calculations, resulting in shortened computation times. MODFLOW-SURFACT user licenses cost several thousand dollars per computer, and as a result, using it on several computers simultaneously is financially impractical. The MODFLOW-SURFACT code is itself based on a version of MODFLOW written by the USGS. MODFLOW-2000 is a public domain code, is available for no charge from the USGS, and there are no limits on the number of computers it can be used on simultaneously. While certain flow problems cannot be efficiently handled by MODFLOW-2000, and require the use of a more-sophisticated code like MODFLOW-SURFACT, the LF-1/CS-23 flow model can be effectively simulated using MODFLOW-2000. The fate and transport code used for the PEST optimization exercise was also changed, for the same reasons described for the flow model – expense and the ability to use multiple computers for computation. The transport portion of the simulation was translated from MODFLOW-SURFACT to MT3DMS (Zheng 1999). Like MODFLOW-2000, MT3DMS is a public-domain code that is available for no charge. MT3DMS is widely used to simulate groundwater plumes, and solves the same groundwater fate and transport equations as MODFLOW-SURFACT.

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	After converting the groundwater flow model to MODFLOW-2000, sensitivity testing was performed to ensure that the converted model performed in a similar manner as the previous MODFLOW-SURFACT based model. Transport simulations were successfully recreated with the converted MODFLOW-2000/MT3DMS model that closely matched the animations presented in the *Final Landfill-1/Chemical Spill-23 2007 Plume Update Technical Memorandum* (AFCEE 2009).
2.2	**Focused Recalibration of the Flow and Transport Model** Following the conversion of the groundwater flow and transport model to MODFLOW-2000 and MT3DMS, sensitivity testing was performed to ensure that the converted model was adequate for use in this optimization assessment. The degree of agreement between measured and simulated tetrachloroethene (PCE) and trichloroethene (TCE) concentrations (the primary LF-1 COCs) through 2009 was evaluated at seven key wells in the core of the LF-1 plume: 27MW0026B, 27MW0031A, 27MW0097B, 27MW1005A, 27MW1007B, 27MW2135A, and 27MW2136A (Figures 2 and 3). At most monitoring wells, the match between simulated and measured concentrations was reasonable, but concentration increases measured at monitoring wells 27MW0097B and 27MW2135A were not simulated well by the model. Monitoring wells 27MW0097B and 27MW2135A are hydraulically downgradient of 27MW0031A, and can be expected to show similar increasing and decreasing concentration trends, with some delay as contaminants travel from the vicinity of one well to another. Particle-tracking simulations showed that particles originating from the 27MW0031A screen descended in the aquifer and passed below the screen of monitoring well 27MW0097B. The simulated rate of descent, if accurate, would likely result in no shallow plume downgradient of well 27MW0031A, the presence of which has been observed in the field. This mismatch between the transport simulation and field data suggested that a focused recalibration of the groundwater flow model would be appropriate in that area. In addition, the lithologic log recorded during rotosonic drilling at 27MW1012A (adjacent to 27MW0031A) was compared to hydraulic conductivity values at the same location in the groundwater flow model (Figures 2 and 3). Inconsistencies between the aquifer properties inferred from the lithologic log and those simulated in the flow model further supported a focused recalibration of the groundwater flow model in this area. The LF-1 groundwater flow model was previously recalibrated in 2007 (Section 2.1). Using much of the same data from the 2007 recalibration effort, but with greater focus on the vertical distribution of water levels, the LF-1/CS-23 groundwater model was recalibrated for this modeling evaluation by adjusting the aquifer hydraulic properties derived from the 2007 recalibration. The model grid and boundary conditions used in the 2007 recalibration were not changed.

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2.2.1	**Model Calibration Data** On 11 April 2007, a round of groundwater level measurements was collected at 82 monitoring wells in the LF-1/CS-23 area, to support the 2007 recalibration. The locations of these wells and the corresponding groundwater elevations are shown in Figure 4, and the groundwater elevations are also listed in Table 1. In addition to the data collected on 11 April 2007, hydraulic data from a synoptic water level survey conducted in June 2004 were also used for model calibration. The June 2004 data were originally used to support calibration of the 2004 version of the LF-1 plume model, and the measurements were taken when the LF-1 remedial system consisted of the five original extraction wells (27EW0001 – 27EW0005). Use of both the 2004 and 2007 monitoring data provided the opportunity to calibrate the model to more than one condition of extraction well pumping and hydrologic stress. The monitoring wells used for the June 2004 synoptic water level round, and the corresponding groundwater elevations are shown on Figure 5 and presented in Table 2. Head-difference targets were computed for each pair of wells located within 500 feet (ft) of each other for both sets of groundwater level measurements. While head-difference targets are derived from water-level targets, and are therefore dependent on the water-level targets, they provide an additional view of the relationships between measurement locations, including the differences in water levels between wells screened at different elevations in the aquifer. The head differences between well pairs are presented in Table 3 for the April 2007 round, and in Table 4 for the June 2004 round.
2.2.2	**Calibrated Aquifer Properties** The spatial distribution of aquifer hydraulic properties was based on the stratigraphy employed in the 2007 LF-1/CS-23 model. Adjustment of aquifer properties during the calibration process consisted solely of modification of the hydraulic conductivity values assigned to stratigraphic units. The LF-1/CS-23 model was recalibrated by automated iterative adjustment of the assigned aquifer parameters, using the auto-calibration software PEST (Doherty 2004, 2010). To maintain consistency with the regional model, the four largest stratigraphic units in the model were not allowed to be modified by PEST. These four units make up 74% of the model cells. The remaining stratigraphic units were available to be modified by PEST to improve the match between measured and simulated water levels and vertical head differences. PEST operated simultaneously using both the June 2004 and April 2007 hydraulic datasets by making adjustments to horizontal hydraulic conductivity and the horizontal to vertical hydraulic conductivity ratio. Although the auto-calibration process resulted in changes to the properties of numerous lenses, most of the changes were small in magnitude. The four silt lenses that were modified by a factor of 1.25 or more (i.e., an increase or decrease of 0.1 order of magnitude) are illustrated in Figure 6. The largest change in horizontal hydraulic conductivity of a lens was to the unit

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designated "LF-1Unit5" from 40 feet per day (ft/d) to 65 ft/d (a factor of 1.6). The largest change in horizontal to vertical hydraulic conductivity ratio was to the unit designated "LF-1Unit3", which was reduced by a factor of 2.1, from 100:1 to 48:1. The auto-calibration process resulted in changes of 1% or more to horizontal hydraulic conductivity for 50 lenses, and to the horizontal to vertical hydraulic conductivity ratios for 29 lenses.

2.2.3 Calibration Results

During calibration, adjustments were made with the goal of simulating water levels (and water-level differences) that agreed closely with those measured in the synoptic rounds of 11 April 2007 and 02 June 2004. These two measurement rounds occurred at times of markedly different aquifer stress. At the 47 monitoring wells that were measured in both events, the water levels for 11 April 2007 averaged 2.36 ft higher than those for 02 June 2004. There were also differences in the operation of the remedial system for these two dates. On 02 June 2004, the remedial system consisted of the five original LF-1 extraction wells pumping a total of approximately 704 gallons per minute (gpm), all of which was reintroduced to the aquifer after treatment through the LF-1 infiltration gallery and trenches. On 11 April 2007, eight wells in the combined LF-1/CS-23 remedial system were operating at a total of approximately 1,827 gpm, of which 27% (493 gpm) was recharged to the LF-1 infiltration gallery and trenches, 34% (621 gpm) to the HATF East infiltration trench, and 39% (713 gpm) to the HATF West infiltration trench (Figure 1).

Figure 7 shows the potentiometric head distributions simulated for 02 June 2004 at the water table and at the bottom of the model, which corresponds to the top of bedrock. The 122 model residuals, consisting of the differences between the simulated and measured water levels at the monitoring wells for the 02 June 2004 data set are listed in Table 2. The residual values ranged from -1.64 (simulated value too low) to 1.54 (simulated value too high), with a mean of -0.17 and standard deviation of 0.527. The small negative value of the residual mean indicates that the simulated heads had a small bias toward being lower than the measured heads. The value of the standard deviation indicates that the simulated values at the monitoring wells were generally within about 0.6 ft of the measured value, either above or below. This is 1% of the range of the measured water levels used for calibration, and indicates a very close match of the model to the calibration target.

The 83 head-difference residuals, consisting of the differences between the simulated and measured differences in water levels at selected pairs of monitoring wells for the 02 June 2004 data set are listed in Table 4. The residual values ranged from -1.66 (simulated value too low) to 1.85 (simulated value too high), with a mean of 0.16 and standard deviation of 0.566. The small positive value of the residual mean indicates that the simulated differences had a small bias toward being higher than the measured differences. The value of the standard deviation indicates that the simulated differences between monitoring wells were generally within about 0.6 ft of the measured value, either above or below.

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	Figure 8 shows the spatial variation of model residuals for this calibration data set. It shows that most of the area upgradient of the LF-1 remedial system (i.e., east) was simulated with head values that are within 1.0 ft of the measured water levels. On the downgradient side, the simulated heads to the south of the extraction wells tend to be slightly higher than the measured water levels, but the residuals are mostly less than 0.5 ft. In the area between extraction wells 27EW0003 and 27EW0005, the residuals are consistently small with no apparent spatial trend. This suggests that there is a satisfactory match between the simulated and measured hydraulic gradients in this area. The simulated potentiometric heads for the pumping and hydrologic conditions of 11 April 2007 are shown in Figure 9. This figure shows the hydraulic effects of the three new extraction wells, 27EW0006, 27EW0007, and 27EW0008, as well as the new Hunter Avenue infiltration trenches. The 82 model residuals for this calibration data set are listed in Table 1. The residual mean for this simulation was -0.21 ft, negative but small. The residuals ranged from a minimum of -1.92 ft to a maximum of 1.24 ft, with a standard deviation of 0.562 ft. Statistically, the calibration to the 11 April 2007 data set is of comparable quality to the match for 02 June 2004. This indicates that the recalibrated model is applicable to a range of extraction well pumping rates and hydrologic conditions. The 20 head-difference residuals, consisting of the differences between the simulated and measured differences in water levels at selected pairs of monitoring wells for the 11 April 2007 data set are listed in Table 3. The residual values ranged from -1.57 (simulated value too low) to 1.27 (simulated value too high), with a mean of 0.01 and standard deviation of 0.749. The small positive value of the residual mean indicates that the simulated differences had a negligible bias toward being higher than the measured differences. The value of the standard deviation indicates that the simulated differences between monitoring wells were generally within about 0.8 ft of the measured value, either above or below. Figure 10 illustrates the spatial distribution of model residuals for simulation of 11 April 2007 conditions. It shows that the simulated heads are within 0.5 ft of the measured water levels in most of the central model area, specifically the area most influenced by the remedial system. There is little apparent east-west trend to the residual distribution. However, there appears to be a tendency toward overestimation of groundwater elevations by the model near the northern and southern boundary for this data set. The improvement in calibration is illustrated on Figure 11. The red bars represent the magnitude of calibration residuals prior to recalibration, and the blue bars represent post-calibration residuals. As can be seen in the figure, almost all of the blue bars are shorter than the red, indicating an improved match at nearly every target location. The impact of recalibration on particle-tracking simulations was evaluated at the conclusion of the focused recalibration. The improved match to vertical head differences resulted in particle tracks that descended less steeply than before the recalibration, and did not degrade the match between simulated and measured concentrations at the seven key wells discussed in Section 2.2.

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2.3	**Contaminant Plume Shells** Contaminant plume shells are used to provide a mechanism for visualizing the distribution of dissolved phase groundwater contamination in three dimensions, for estimating the contaminant mass and volume of the plume, and for initializing the groundwater model for running contaminant transport simulations. For the purposes of this exercise, a combined PCE/TCE plume shell was created for use in the optimization transport simulations because PCE and TCE are the most prevalent COCs at LF-1 and CS-23. TCE is the primary COC at CS-23, PCE is the primary COC for the LF-1 Central and Southern Lobes, and TCE is the primary COC for the LF-1 Northern Lobe. The current distribution of the remaining six LF-1 COCs at concentrations exceeding their respective groundwater standards is contained within the area of the composite PCE/TCE plume boundary. In addition, the COCs that will drive plume cleanup and restoration timeframes at LF-1/CS-23 are PCE and TCE. Therefore, a combined PCE/TCE plume shell was created with PCE representing the main body of LF-1 (Central and Southern Lobes), and TCE for the LF-1 Northern Lobe and CS-23 (Figure 1). A truncated (or "cut-off") plume shell was used in this evaluation, in which all concentrations west of the extraction well fence were set to zero at the start of the simulation. Cut-off plume simulations for LF-1/CS-23 are helpful in distinguishing between contamination that is beyond the MMR boundary at the start of the simulation and that which could migrate past the extraction wells in the future under the PEST-optimized operating conditions. This allowed for verification that the remedial design objective of plume containment at the base boundary was being met.
2.4	**Groundwater Model Setup** For the purposes of this optimization evaluation, a predictive simulation was constructed of ten 5-year increments to represent the next 50 years of remedial system operation. The 5-year increments were chosen to help reduce model run times, but were also chosen as a reasonable assumption of when and how often flow rates may change in the future. It was estimated that future remedial system performance evaluations may occur approximately every five years. Therefore, flow rates at each well were allowed to change at the end of each 5-year increment and were held constant during each increment. Each 5-year increment was simulated as steady-state flow conditions. Groundwater extracted by the LF-1 extraction wells 27EW0001, 27EW0003, 27EW0004, and 27EW0005 is treated via granular activated carbon (GAC) at the LF-1 treatment plant and then returned to the aquifer through a reinjection well, infiltration trenches, and an infiltration gallery (Figure 1). A portion of the LF-1 treatment plant effluent is diverted seasonally (April through October) for irrigation purposes to the U.S. Department of Veterans Affairs (VA) Massachusetts National Cemetery. For the purposes of this (and previous) modeling exercises, an annualized average of 135 gpm of LF-1 treatment plant effluent is assumed to be diverted to the VA (AFCEE 2008 and 2009).

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	Groundwater extracted by LF-1/CS-23 extraction wells 27EW0002, 27EW0006, 27EW0007, and 27EW0008 is treated via GAC at the HATF, and then returned to the aquifer through the East and West infiltration trenches (Figure 1). In the simulation of the remedial system, treated groundwater is discharged in the manner described above, in quantities that equal the total extraction rate.
2.5	**Defining PEST Parameters: Assigning Remediation Targets, Optimization Targets, and accounting for Remedial Design Constraints** The goal of this PEST optimization modeling assessment performed for the LF-1/CS-23 remedial system was to minimize the total lifecycle costs of the remedial action while meeting the remedial design objective of plume containment at the base boundary. In order for the PEST model to achieve that objective, the following parameters were defined: remediation targets, optimization targets, and remedial design constraints. These targets are mathematically combined into a single "objective function", which is the weighted sum of squared differences between target values and simulated values. The following subsections provide the definition of those parameters, and the process and approach the PEST model used to achieve the goal of this evaluation given those targets and constraints.
2.5.1	**Remediation Targets.** The remediation target for a PEST modeling assessment is typically a ROD-defined objective, such as capture of the overall plume, plume reduction, or limiting the adverse migration of dissolved contaminants. The remediation targets for this LF-1/CS-23 remedial system optimization assessment were to: • meet the remedial design objective of plume containment at the base boundary (AFCEE 2007a,b) • maintain or improve the aquifer restoration timeframe of 2058, as presented in the *Final Landfill-1/Chemical Spill-23 2007 Plume Update Technical Memorandum* (AFCEE 2009). The remediation targets were translated into numerical measures that could be evaluated by the model at the end of each optimization run. Some targets were evaluated on an annual basis (e.g., plume containment), while others did not change as often, and were evaluated once for each stress period of the simulation (i.e., for each successive configuration of extraction and reinjection wells/infiltration galleries and trenches; e.g., drawdown at wetlands). The final weighting scheme for the remediation targets was developed iteratively, assigning greater weight to targets that were more difficult to achieve. A brief description of each target is presented below. Plume Containment. Plume containment was enforced during optimization by utilizing cut-off plume shells (Section 2.3) and calculating the simulated off-base plume volume each year, and penalizing the objective function severely for off-base plume excursions above a minimal

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	threshold. A minor amount of plume advancement across the base boundary was permitted, but less than was predicted by the 2007 model for the current remedial system flow rates (AFCEE 2009). The amount of plume advancement beyond the base boundary that was permitted was small enough that dispersion and decay processes reduced simulated off-base PCE and TCE concentrations to below the maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) within a few hundred feet of the base boundary. Restoration Timeframe. The restoration timeframe for a plume is defined as the amount of time it takes for COC concentrations in groundwater to decline below their respective cleanup levels. The restoration timeframe target for this evaluation was to maintain or improve the restoration timeframe (2058) as is currently predicted for the remedial system under the current operational scenario (AFCEE 2009). The restoration timeframe was calculated directly from simulated plume volume time-series data (i.e., the time at which the aquifer volume containing concentrations above the PCE or TCE MCL drops to below the MCL), or extrapolated from the final two years in simulations where the plume(s) persisted until the end of the 50-year simulation. The remediation targets were weighted more heavily than the optimization targets in this assessment in an attempt to ensure that plume containment at the base boundary and the same or improved restoration timeframe are achieved.
2.5.2	**Optimization Targets**. The optimization targets for a PEST optimization assessment are the goals of the optimization evaluation. The goal of this PEST optimization modeling assessment is to minimize the total lifecycle costs of the remedial action while meeting the remedial design objective of plume containment at the base boundary (i.e., the remediation target) with either no impact or an improved on restoration timeframe. The optimization targets can be characterized as 'hard' targets (things which PEST tries hard to achieve) and 'soft' targets (things which PEST tries to achieve after all other targets are achieved). Minimizing the total lifecycle cost of the remedial action (while meeting the remedial design objectives of restoration timeframes and plume containment at the base boundary) is the hard optimization target. Total lifecycle cost of the remedial action was estimated using historical cost data in combination with simulated results. The following components were considered the principle costs associated with the remedial action, were used in the estimation, and are based on historical cost values for LF-1/CS-23: • GAC changeouts: $10,620 per 96 million gallons (Mgal) treated • Operations and maintenance services: $516,199 per 857.1 Mgal treated (LF-1 and HATF combined) • Technical services, data warehouse, graphics, and sampling costs: $496,883 per 5,600 Mgal of plume volume (note: this relates to the volume of the plume, not the quantity of water treated) • Electrical costs: $312,000 per 130.91 horsepower-(HP) year

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- Inflation: 2.15%, based on previous AFCEE usage
- Discount rate: Positive discount rates favor deferring spending to the future. A discount rate of 0% was used to reflect AFCEE's preference to avoid deferring plume cleanup costs to the future

The volume of treated water and plume volume estimates for these cost calculations were extracted from the MODFLOW and MT3DMS simulations.

Limiting Drawdown and Mounding at nearby Surface Water Bodies. A set of ecological guidelines for treatment system operation at MMR was defined in 1998 by the Technical Review and Evaluation Team (TRET) for the protection of the natural environment (AFCEE 1998). The TRET criteria were not intended to be treated as direct indicators of ecological damage or impacts, or as a proxy for the identification of ecological impacts; rather, they were intended to serve as guidelines for design and as a monitoring reference or benchmark that could be used to identify ecosystems that may be adversely impacted by a treatment system. If a system exceeded, or was predicted to exceed the TRET criteria, a monitoring program was to be implemented that assessed the potential impacts of system operation. If the impacts proved to be damaging, the operation of the remedial system would be re-evaluated (AFCEE 2009).

Groundwater modeling conducted in support of the CS-23 Wellfield Design (AFCEE 2006) indicated that simulated operation of the expanded LF-1/CS-23 remedial system could potentially trigger an exceedance of the TRET criteria. Specifically, the TRET criteria that were identified to be of potential concern due to the operation of the expanded LF-1/CS-23 remedial system were: (1) no more than 0.5 ft change in water level in recreational ponds relative to ambient conditions as a result of plume remediation activities; and (2) vernal pool, bog, and riverine ecosystem water levels should not vary more than 0.2 ft as a result of plume remediation activities (AFCEE 2006). As a result, AFCEE began performing hydrologic monitoring and ecological survey tasks at nearby ecosystems in 2005 to provide the data necessary to conduct routine ecological and hydrological evaluations. The ecological and hydrological evaluation findings to date suggest that while the water levels have lowered (possibly due to the operation of the system), the ecosystems, vegetation, and wildlife habitats did not change significantly between startup of the expanded LF-1/CS-23 treatment system in 2006 and 2010 (AFCEE 2011c).

For the purposes of this assessment, limiting the drawdown and mounding at nearby surface water bodies is defined as a soft optimization target because: a) the TRET criteria were already exceeded by the current operation of the remedial system, b) a monitoring program is ongoing to assess the impacts of system operation on the nearby ecosystems, and c) findings to date indicate that the nearby ecosystems, vegetation and wildlife habitats are healthy.

ITEM	REMARKS
	Targets for drawdown and mounding were designed so that the objective function was not penalized for performance better than the target. In other words, a simulated drawdown of 0.35 ft at a wetland resulted in an objective function penalty of 0.15 ft (before weighting and squaring), but a simulated drawdown of 0.1 ft (i.e., below the TRET criteria of 0.2 ft) resulted in no penalty. If the optimization results had predicted greater drawdown and mounding than is observed under current operation, the objective function penalty could have been increased to reduce drawdown and/or mounding effects. Drawdown and mounding targets were created for Osborn Pond, Edmunds Pond, Spit Pond, Spectacle Wetland, and Vernal Pool 651 (Figure 1). The drawdown and mounding targets were evaluated at each 5-year change in extraction rates.
2.5.3	**Remedial Design Constraints**. The purpose of this evaluation was to assess the optimization of the existing remedial system. Therefore, the remedial design constraint for this assessment was to utilize only the eight existing LF-1 and CS-23 extraction wells. In reality, the optimized remedial system pumping schedule would be constrained by the maximum capacities of extraction wells and infiltration galleries. However, for the purposes of automatic optimization, the maximum capacities were intentionally set unrealistically high, with the expectation that optimization was likely to generally reduce flow rates. If the optimization process had suggested unrealistically high flow rates at the extraction wells, further analysis would have been applied to identify realistic maximum capacities with which to limit the optimization process. The treatment capacity of GAC trains at each treatment plant was also considered during this assessment, but was not a determining factor in allowing PEST to assign flow rates to each extraction well (i.e., it was not a limiting factor). If the optimization evaluation had resulted in exceeding the treatment capacity of either treatment plant, the treatment capacity of the GAC trains at each treatment plant could have been defined as a remedial design constraint as the evaluation proceeded.
2.6	**PEST Modeling Process** The PEST model (Doherty 2004, 2010) was used to optimize the extraction well flow rates and predict the impact of those flow rates on plume behavior, cost, and wetland water levels. PEST is typically used in the context of model calibration, where it is applied to adjust aquifer parameters and improve the model's ability to match calibration targets such as water levels. However, PEST is model-independent; that is, it modifies input values, and evaluates the impact of those changes on targets, but is unaware of the context of those input and output values. PEST was used in this assessment to modify extraction well flow rates and evaluate the impact of those changes on predicted lifecycle costs, in a manner similar to model calibration.

ITEM	REMARKS
	For this LF-1/CS-23 remedial system optimization, the parameters modified by PEST were the extraction rates at each of eight wells, in ten 5-year increments, for a total of 80 parameters. PEST evaluated the impact of those flow rates on multiple targets: plume containment, the rate of plume cleanup, drawdown in the vicinity of surface-water bodies, and lifecycle cost (Section 2.5). PEST calculates improved flow rates by running an initial flow and transport simulation, making small changes to each of the 80 extraction rates, and calculating the impact of each small change on the objective function. The results of all the small changes are then mathematically combined to solve for a set of extraction rates that improve the remedial system performance as measured by the targets. The process is repeated, using the new extraction rates as a starting point, until no further improvement in the objective function is achieved. Approximately 1,000 model runs were required for each attempt at optimization, and the optimization process was repeated several times to make improvements in the process. Each optimization run required the equivalent of 6 months of computation, which was reduced to approximately 10 days by using several computers in parallel. In summary, the PEST model adjusted flow rates at each extraction well to first achieve the remediation target (plume containment at the base boundary), while staying within the remedial design constraints (existing remedial system with no limit on flow while maintaining the same or improving the restoration timeframe), and aiming for the optimization targets (lowest lifecycle cost, and consider meeting TRET drawdown criteria).
2.7	**Adjustment to the Electrical Cost Estimating Assumption – Incorporating PIPE-FLO®** The first set of PEST optimization results provided a wide range of flow rates across all extraction wells, with a relatively high flow rate at one extraction well. An inspection of these results revealed a flaw in the original cost-estimating assumption which applied a linear relationship between electrical cost and flow rate. Electrical costs are a substantial percentage of the total lifecycle cost of an MMR remedial system. The interaction between extraction well flow rates and treatment system pipeline pressures can result in significant changes in the power required to operate the system with relatively small changes in extraction well flow rates. The PIPE-FLO pipe hydraulics program (Engineered Software 2008) has previously been used to construct models of the LF-1/CS-23 treatment systems and their associated network of pipes, valves, and pumps. Using the LF-1/CS-23 PIPE-FLO model, a quality check of the initial PEST optimization results (using the linear relationship between electrical cost and flow) indicated that estimates for electrical cost could be off by as much as 50% with the range of flow rates provided by PEST. Given that the model decision logic for this assessment was largely based on cost, it was determined that the PIPE-FLO model's ability to more accurately estimate electrical consumption (and therefore cost) should be incorporated into this optimization process.

ITEM	REMARKS
	To account for the complex interaction of flow rates, pressure in conveyance piping, and electricity consumption by pumps to overcome gravity and pipe pressure, the LF-1/CS-23 PIPE-FLO model was used to calculate the total dynamic head (TDH) at each well pump in both treatment systems. Extraction well flow rates were updated during each simulation, and PIPE-FLO calculated the TDH at each extraction well pump for each 5-year increment in the simulation. TDH and flow rate can be used to calculate the horsepower required for each well pump, which then can be used to estimate electricity cost. The calculation for horsepower was made using the following equation: $$\text{HP} = \frac{\text{TDH} \cdot Q \cdot 8.34 \text{ lb/gal}}{550 \frac{\text{ft·lb/s}}{\text{HP}} \cdot 60 \text{ s/min}}$$ Where: TDH = feet of water, Q = flow rate in gpm, lb = pounds, gal = gallons, ft = feet, s = seconds, min = minutes The ability to incorporate PIPE-FLO into the optimization process provided significantly improved cost data for this assessment.
3.0	**PEST OPTIMIZATION RESULTS** After PIPE-FLO was incorporated into the PEST optimization process, a total of seven PEST modeling runs were completed (with minor adjustment of inputs) until no further improvements on the objective function could be made. One of the results of this PEST optimization process was an optimized pumping schedule for the next 50 years of remedial system operation. Figure 12 graphically shows the pumping schedule for the optimized operation (in 5 year time steps) in comparison to current pumping rates, projected 50 years into the future. The current flow rates were continued into the future, with extraction wells being shut down when both PCE and TCE concentrations were predicted by the transport model to decrease below the MCL of 5 μg/L in the area near the extraction wells. The optimized flow rates are lower than current flow rates at six extraction wells and higher at two extraction wells (27EW0004 and 27EW0006). The optimized pumping rates recommend an increase of approximately 200 gpm in the flow rate at extraction well 27EW0006, but a decrease in the total flow rate for the remedial system by approximately 300 gpm in the first five years (in comparison to current operation). The total optimized extraction rate is 500 to 600 gpm less than current rates during years 6 to 15, and then becomes similar to the current operation for years 16 to 40. Neither pumping schedule requires any extraction to keep the plume on-base during years 41 to 50. The estimated total lifecycle cost for the remedial action using the optimized pumping schedule depicted in Figure 12 is approximately $28 million over 50 years (nominal dollars), which is approximately $10 million less than the current operation. The estimated expenditures for the

ITEM	REMARKS
	50-year operation are shown on Figure 13. The dashed line represents the predicted cumulative cost reduction assuming the PEST optimized flow rates are implemented. Most of the cost reduction occurs in the first 25 years, and amounts to approximately one-fourth of the total lifecycle cost of the current operation. In addition to reducing costs, optimized operation of the remedial system is predicted to result in less impact to surface water bodies. The estimated drawdowns at surface water bodies resulting from the current and optimized operation schedules are shown in Figure 14. The predicted impacts are lessened further as pumping rates decline in the future, with the optimized operation always producing less impact than the current operation. No other surface water bodies near the LF-1/CS-23 remedial system were predicted to experience a drawdown or mounding impact from remedial system operation that exceeded the TRET criteria, and are therefore not depicted on Figure 14. The estimated carbon dioxide (CO_2) emissions resulting from optimized operation of the remedial system are depicted on Figure 15. Optimized operation of the remedial system is estimated to reduce CO_2 emissions by 5,500 tons over 25 years, compared to the current operation. The capture zones depicting the current and optimized operation of the LF-1/CS-23 remedial system are depicted in relation to the combined 2007 PCE and TCE plume shell on Figure 16. The outline of the capture zone was constructed by starting a groundwater particle at each model cell, and tracking it downgradient until it either entered an extraction well or exited the flow model at another location. Figure 16 indicates that both operational scenarios (current and optimized) hydraulically contain the majority of the LF-1 and CS-23 plumes at the base boundary. The capture zone of the optimized operation is nearly identical to the current operation, with the exception that the optimized operation capture zone does not extend as far to the south. Notably, the area where the optimized operation capture zone is smaller does not contain any significant PCE and TCE concentrations. The predicted transport of the PCE and TCE plumes during 50 years of the optimized operation pumping schedule is illustrated on Figures 17a, 17b, and 17c. As with the current operation, on-base portions of the PCE and TCE plumes are prevented from migrating any significant distance downgradient (west) of the base boundary by a combination of hydraulic control and natural attenuation under the optimized pumping scenario. Small lobes of the plume cross the base boundary near wells 27EW0002 and 27EW0006 10 years into both simulations, and near wells 27EW0003 and 27EW0004 at 30 years into both simulations. The model predicts that both tongues are quickly attenuated and will not travel a significant distance beyond the base boundary. Overall, the predicted plume transport under optimized operation is very similar to that of the current operation. At the end of the 50-year simulation (2060), the same small remnants of the plume remain in low-hydraulic-conductivity aquifer materials in the area upgradient (east) of the remedial system. Using the optimized operation pumping schedule, the PCE and TCE concentrations are expected to decline below the MCL just after 2060.

ITEM	REMARKS
	Figure 18 illustrates the predicted PCE and TCE mass removal by the remedial system, and the PCE and TCE mass lost to decay reactions. The total simulated PCE and TCE mass (dissolved and adsorbed) in the transport model at the initial time step is approximately 1000 pounds (lbs). The current operation is predicted to extract approximately 100 lbs more combined PCE and TCE than the optimized operational condition over the next 40 years. The 100 lbs of PCE and TCE mass that is not captured by the system under the optimized condition is either lost to decay, exits the model at sub-MCL concentrations, or remains in the model at sub-MCL concentrations at the end of the simulation.
4.0	**CONCLUSIONS AND RECOMMENDATIONS** An optimized pumping schedule has been developed for the LF-1/CS-23 remedial system that achieves the remedial design objective of plume containment at the base boundary as well as the current operation while maintaining the same restoration timeframe, but at 25% less cost ($10 million over 50 years), with less adverse impact on nearby ponds and wetlands, and less greenhouse gas emissions. The optimized operation of the remedial system will result in immediate cost reductions, and requires no new infrastructure other than pump replacement, which occurs regularly at the site as part of routine maintenance. The automated optimization modeling described in this project note can be updated without great effort when new plume shells are created, or if the conceptual site model changes (e.g., aquifer test results, or the installation of monitoring wells suggest a revision to aquifer properties is warranted). Changes to the cost assumptions are also easily implemented. Long-term predictions of groundwater flow and transport are always accompanied by uncertainty, especially as the prediction timeframe moves farther into the future. The optimized pumping schedule and accompanying predictions of plume behavior presented here should be periodically reviewed and updated to incorporate new field data and cost information.
5.0	**REFERENCES** AFCEE (Air Force Center for Engineering and the Environment). 2012 (March). Project Note: *LF-1/CS-23 2011 PEST Optimization Modeling Results*. 420005-SPEIM-LF-1/CS-23-PRJNOT-003. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA. _____. 2011a (September). *Final Chemical Spill-4 2010 Remedial System Optimization Technical Memorandum*. 404929-SPEIM-CS-4-TECHMEM-001. Prepared by CH2M HILL for AFCEE/MMR Installation Restoration Program, Otis Air National Guard Base, MA. _____. 2011b (April). *2011 Operations and Maintenance Plan for Groundwater Extraction and Treatment Systems and Wind Turbine*. 404929-O&M-MULTIPLE-OMPLN-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis ANG Base, MA.

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Attachments:

Figure 1. LF-1 and CS-23 Groundwater Plumes and Remedial Systems
Figure 2. Model-Predicted vs. Observed PCE Concentration Trends at Select LF-1 Monitoring Wells
Figure 3. Model-Predicted vs. Observed TCE Concentration Trends at Select LF-1 Monitoring Wells
Figure 4. LF-1/CS-23 Groundwater Elevations on 11 April 2007
Figure 5. LF-1/CS-23 Groundwater Elevations on 02 June 2004
Figure 6. Location of Silt Units Having Significant Changes During Model Recalibration
Figure 7. Contours of Simulated Heads at the Water Table and Model Bottom for 02 June 2004 Conditions
Figure 8. Spatial Distribution of Model Residuals for 02 June 2004
Figure 9. Contours of Simulated Heads at the Water Table and Model Bottom for 11 April 2007 Conditions
Figure 10. Spatial Distribution of Model Residuals for 11 April 2007
Figure 11. Pre- and Post-Calibration Head Difference Model Residuals
Figure 12. Comparison of Current Operation vs. Optimized Operation Pumping Rates
Figure 13. Estimated Cost of Current Operation vs. Optimized Operation
Figure 14. Simulated Drawdown at Wetlands and Vernal Pools
Figure 15. Estimated CO_2 Emissions From Current Operation vs. Optimized Operation
Figure 16. LF-1/CS-23 Remedial System Model-Predicted Capture Zones
Figure 17a,b,c. Comparison of Simulated PCE/TCE Plume Concentrations, Current Operation vs. Optimized Operation
Figure 18. Comparison of Simulated PCE/TCE Mass Removal by Extraction Wells and Decay Reactions
Table 1. April 2007 Steady-State Simulation Residuals
Table 2. June 2004 Steady-State Simulation Residuals
Table 3. April 2007 Model-Predicted and Observed Groundwater Elevation Differences at Selected Monitoring Well Pairs
Table 4. June 2004 Model-Predicted and Observed Groundwater Elevation Differences at Selected Monitoring Well Pairs

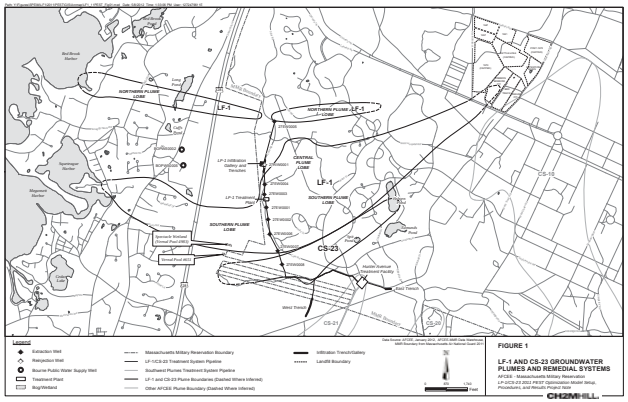


FIGURE 1

LF-1 AND CS-23 GROUNDWATER PLUMES AND REMEDIAL SYSTEMS

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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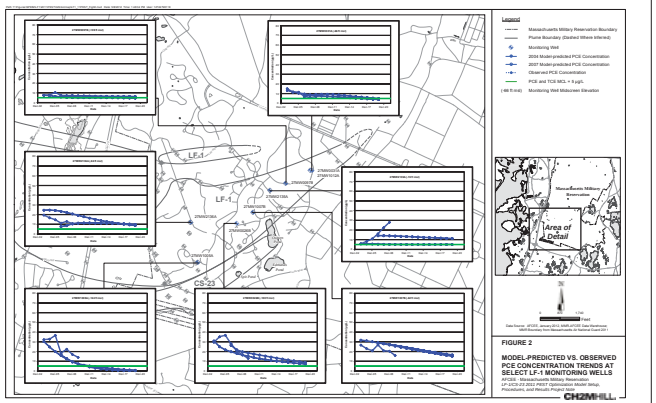


FIGURE 2

MODEL-PREDICTED VS. OBSERVED PCE CONCENTRATION TRENDS AT SELECT LF-1 MONITORING WELLS

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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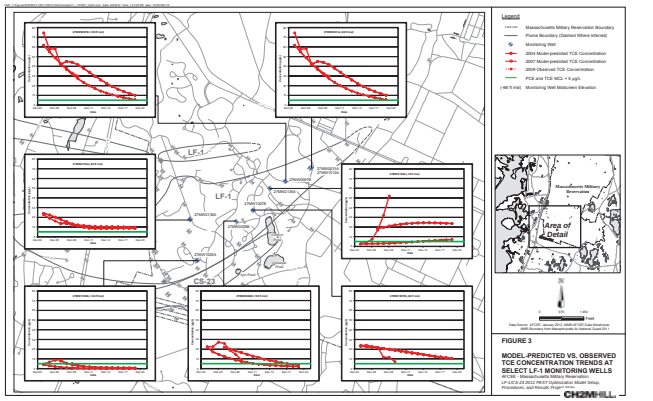


FIGURE 3

MODEL-PREDICTED VS. OBSERVED TCE CONCENTRATION TRENDS AT SELECT LF-1 MONITORING WELLS

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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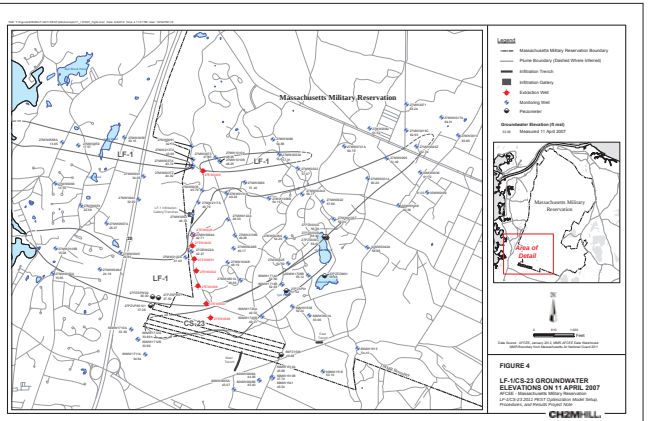


FIGURE 4

LF-1/CS-23 GROUNDWATER ELEVATIONS ON 11 APRIL 2007

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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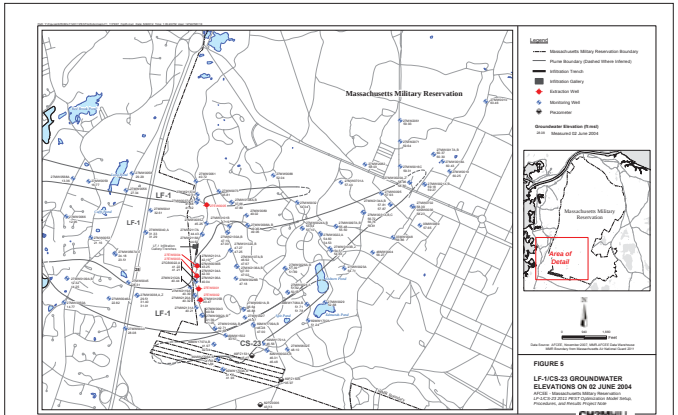


FIGURE 5

LF-1/CS-23 GROUNDWATER ELEVATIONS ON 02 JUNE 2004

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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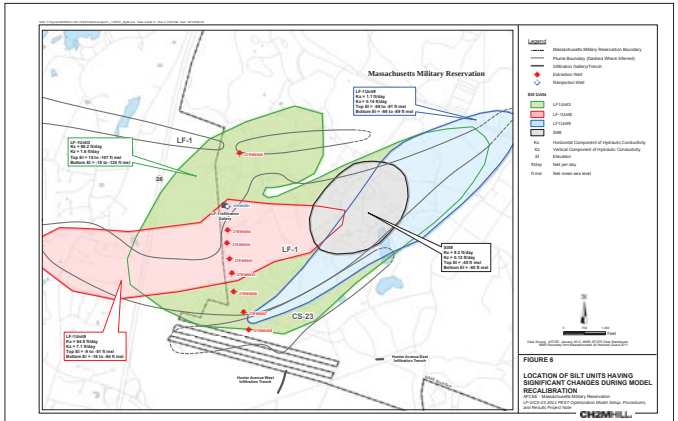


FIGURE 6

LOCATION OF SILT UNITS HAVING SIGNIFICANT CHANGES DURING MODEL RECALIBRATION

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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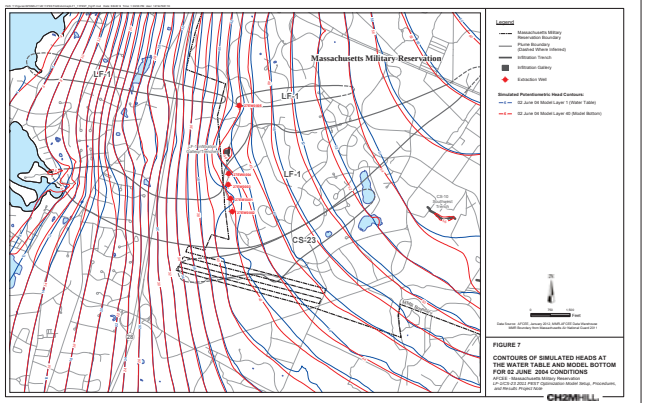


FIGURE 7

CONTOURS OF SIMULATED HEADS AT THE WATER TABLE AND MODEL BOTTOM FOR 02 JUNE 2004 CONDITIONS

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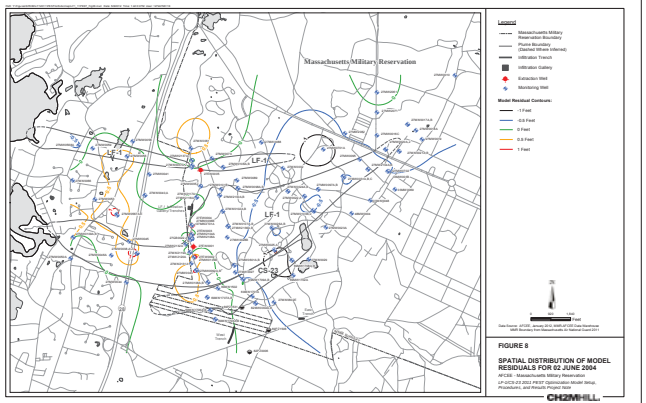


FIGURE 8

SPATIAL DISTRIBUTION OF MODEL RESIDUALS FOR 02 JUNE 2004

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LF-UCS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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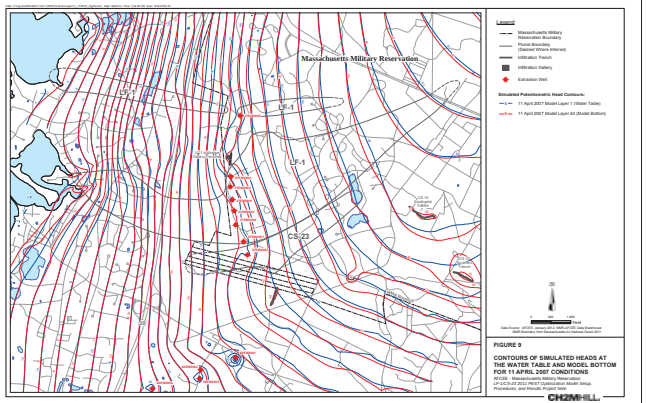


FIGURE 9

CONTOURS OF SIMULATED HEADS AT THE WATER TABLE AND MODEL BOTTOM FOR 11 APRIL 2007 CONDITIONS

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LF-UCS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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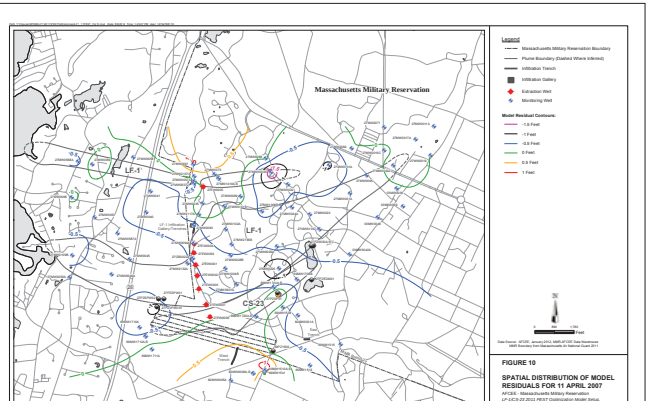


FIGURE 10

SPATIAL DISTRIBUTION OF MODEL RESIDUALS FOR 11 APRIL 2007

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LF-UCS-23 2012 PEST Optimization Model Setup, Procedures, and Results Project Note

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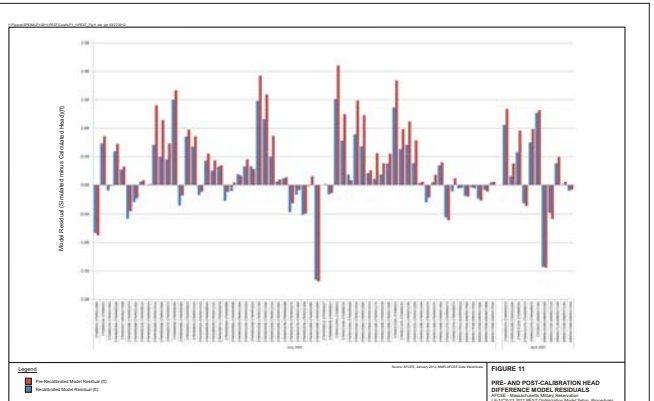
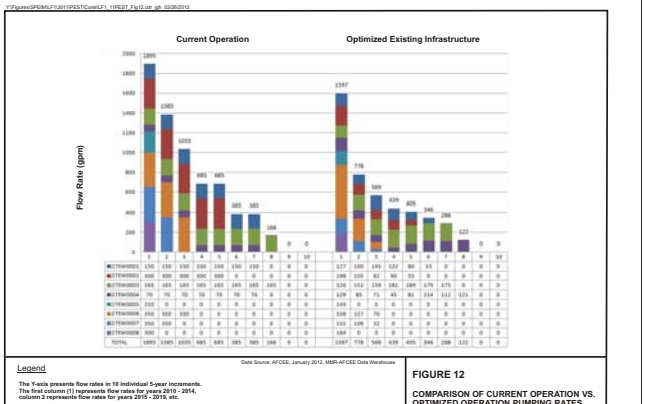


FIGURE 11

PRE- AND POST-CALIBRATION HEAD DIFFERENCE MODEL RESIDUALS

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LF-UCS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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Legend

The Y-axis presents flow rates in 10 individual 5-year increments. The first column (1) represents flow rates for years 2010 - 2014, column 2 represents flow rates for years 2015 - 2019, etc.

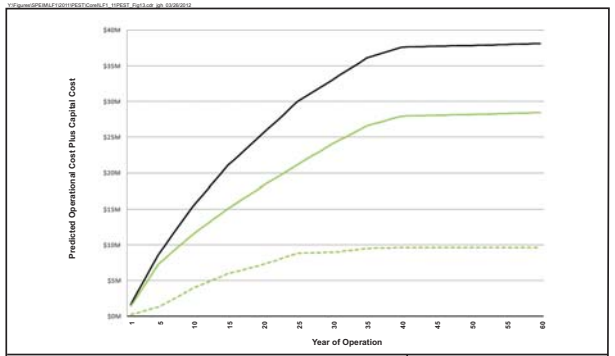
Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

FIGURE 12

COMPARISON OF CURRENT OPERATION VS. OPTIMIZED OPERATION PUMPING RATES

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LF-UCS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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Legend

- Current Operation
- Optimized Operation
- Predicted Cost Reduction as a Result of Optimization

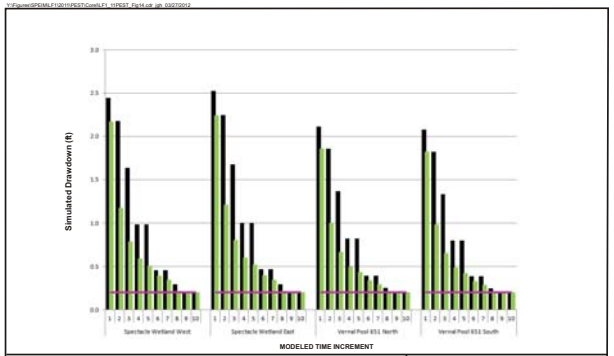
FIGURE 13

ESTIMATED COST OF CURRENT OPERATION VS. OPTIMIZED OPERATION

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

Legend

- Current Operation
- Optimized Operation
- TRET Drawdown Criteria (0.2 ft)

TRET = Technical Review and Evaluation Team

Notes:
1. Refer to Figure 1 for the location of these surface water features.
2. The Y-axis presents flow rates in 10 individual 5-year increments. The first column (1) represents flow rates for years 2010 - 2014, column 2 represents flow rates for years 2015 - 2019, etc.

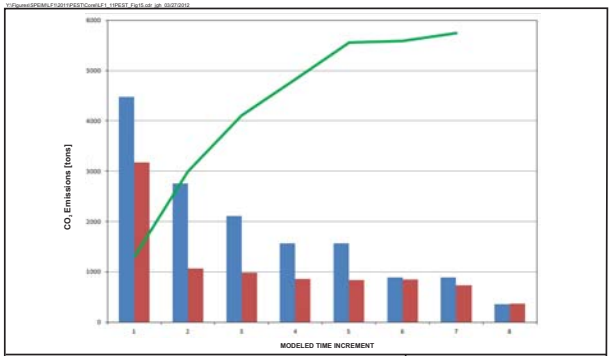
FIGURE 14

SIMULATED DRAWDOWN AT WETLANDS AND VERNAL POOLS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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Legend

- Total CO_2 Emissions, Current Operation [tons]
- Total CO_2 Emissions, Optimized Operation [tons]
- Cumulative Difference in CO_2 Emissions Between Current Operation and Optimized Operation [tons]

CO_2 = Carbon Dioxide

Note: The Y-axis presents flow rates in 10 individual 5-year increments. The first column (1) represents flow rates for years 2010 - 2014, column 2 represents flow rates for years 2015 - 2019, etc.

FIGURE 15

ESTIMATED CO_2 EMISSIONS FROM CURRENT OPERATION VS. OPTIMIZED OPERATION

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LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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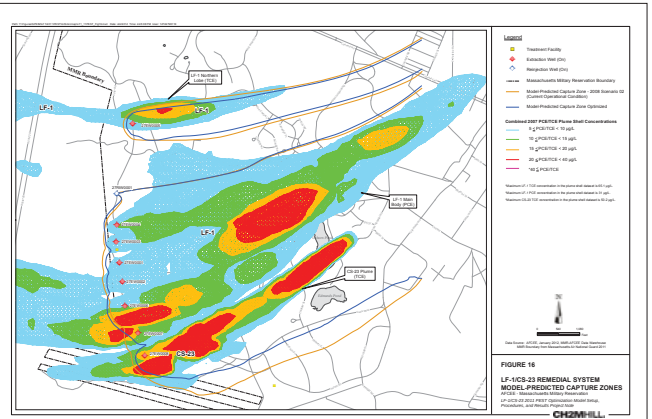


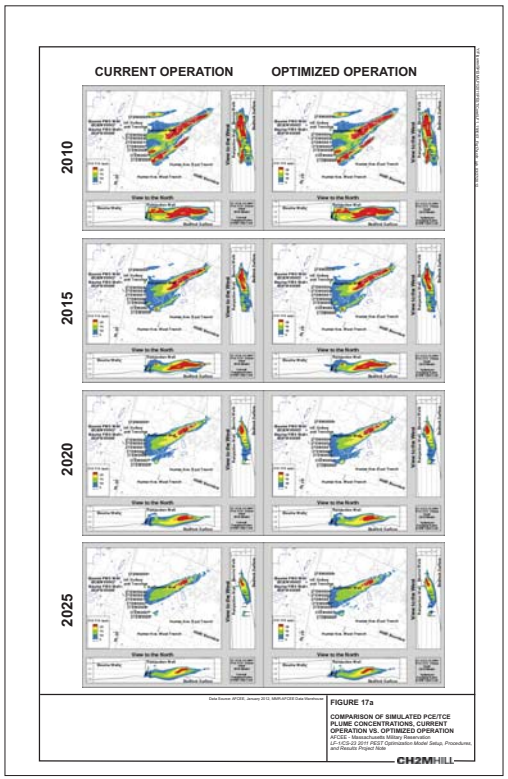
FIGURE 16

LF-1/CS-23 REMEDIAL SYSTEM MODEL-PREDICTED CAPTURE ZONES

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 PEST Optimization Model Setup, Procedures, and Results Project Note

CH2MHILL



Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

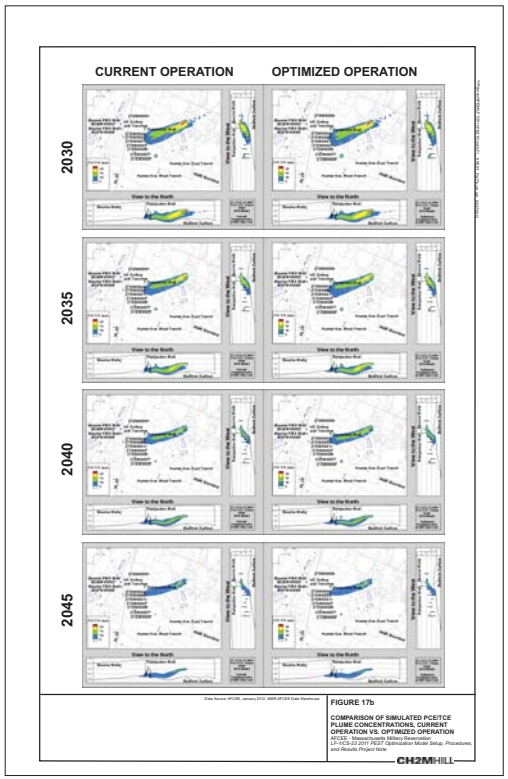
FIGURE 17a

COMPARISON OF SIMULATED PCE/TCE PLUME CONCENTRATIONS, CURRENT OPERATION VS. OPTIMIZED OPERATION

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

CH2MHILL



Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

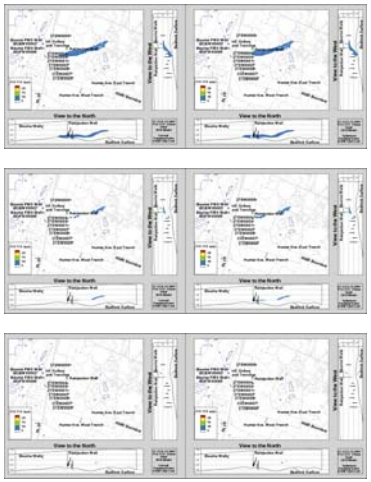
FIGURE 17b

COMPARISON OF SIMULATED PCE/TCE PLUME CONCENTRATIONS, CURRENT OPERATION VS. OPTIMIZED OPERATION

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

CH2MHILL



Data Source: AFCEE, January 2012; MMR AFCEE Data Warehouse

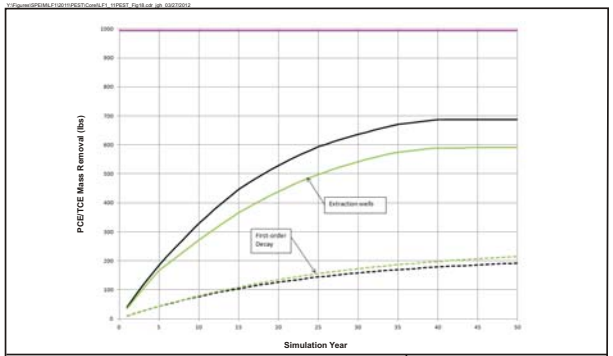
FIGURE 17c

COMPARISON OF SIMULATED PCE/TCE PLUME CONCENTRATIONS, CURRENT OPERATION VS. OPTIMIZED OPERATION

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

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Legend

- Current Operation
- Optimized Operation
- Total Initial Mass

lbs = Pounds

FIGURE 18

COMPARISON OF SIMULATED PCE/TCE MASS REMOVAL BY EXTRACTION WELLS AND DECAY REACTIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

CH2MHILL

Table 1
April 2007 Steady-State Simulation Residuals
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Midscreen Elevation (ft msl)	Measured Groundwater Elevation (ft msl)	Simulated Groundwater Elevation (ft msl)	Model Residual (ft)
03MW0036	0.54	61.72	61.69	-0.03
03MW0042A	-74.64	58.98	58.55	-0.43
03MW0048	5.84	60.36	60.15	-0.21
03MW0069	0.34	61.03	60.97	-0.06
27GB0022A	-61.27	42.27	41.52	-0.75
27MW0016C	46.50	62.93	62.82	-0.11
27MW0017A	5.22	64.01	64.20	0.19
27MW0019	-1.20	63.86	63.85	-0.01
27MW0020Z	-42.10	62.34	62.52	0.18
27MW0022	-42.00	57.86	57.55	-0.31
27MW0024A	-43.60	56.71	56.37	-0.34
27MW0025	-84.60	54.59	53.04	-1.55
27MW0026A	-39.49	54.29	54.02	-0.27
27MW0028B	-19.30	49.17	48.61	-0.56
27MW0031A	-66.08	60.20	60.02	-0.18
27MW0032	-10.62	57.07	56.50	-0.57
27MW0033A	-48.50	57.31	55.39	-1.92
27MW0035	-37.18	45.79	46.29	0.50
27MW0037A	-35.69	43.74	44.10	0.36
27MW0037Z	-130.58	44.02	43.32	-0.70
27MW0040	-58.56	32.90	32.20	-0.70
27MW0041	-71.50	34.06	33.29	-0.77
27MW0045	-105.46	29.85	29.85	0.00
27MW0046A	-105.40	24.18	24.16	-0.02
27MW0050A	-77.52	15.65	15.45	-0.20
27MW0053	-104.76	22.58	22.17	-0.41
27MW0058	-128.70	30.16	29.95	-0.21
27MW0059	-136.38	17.57	17.83	0.26
27MW0061	-37.15	42.73	43.78	1.05
27MW0066	-126.74	13.55	13.63	0.08
27MW0073	-58.34	47.85	48.20	0.35
27MW0088	-27.50	54.88	54.98	0.10
27MW0089	-29.49	51.40	51.54	0.14
27MW0093	-42.62	46.33	45.63	-0.70
27MW0094A	-73.86	42.71	42.17	-0.54
27MW0095	-125.04	61.46	61.23	-0.23
27MW0101B	-27.09	49.24	49.27	0.03
27MW0102A	-65.69	49.30	48.97	-0.33
27MW0103Z	-58.79	58.00	57.56	-0.44
27MW0109B	-34.10	15.08	14.31	-0.77
27MW0567A	-31.20	26.37	25.97	-0.40
27MW0568A	-50.10	13.95	13.32	-0.63
27MW0601A	-27.84	48.66	47.95	-0.71
27MW0701A	-34.02	60.79	59.70	-1.09
27MW1004B	-9.62	48.19	47.21	-0.98
27MW1008B	-43.90	54.19	53.59	-0.60
27MW1010A	-52.48	48.26	48.76	0.50
27MW1010B	-10.57	48.25	48.90	0.65
27MW2071	58.27	63.24	63.56	0.32
27MW2082	2.05	61.52	61.48	-0.04
27MW2117A	-55.07	45.76	45.90	0.14
27MW2132A	-26.10	41.40	41.23	-0.17
27MW2136B	-35.22	49.26	49.21	-0.05

Table 1
April 2007 Steady-State Simulation Residuals
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Midscreen Elevation (ft msl)	Measured Groundwater Elevation (ft msl)	Simulated Groundwater Elevation (ft msl)	Model Residual (ft)
27MW2137A	-24.96	43.96	44.01	0.05
27PZ0030A	21.95	56.93	56.83	-0.10
27PZ0030B	42.15	56.90	56.84	-0.06
27PZ0030C	52.00	56.92	56.71	-0.21
27PZEDM01	51.00	56.46	55.59	-0.87
27PZSP01	48.00	51.52	52.19	0.67
27PZSPW01	32.00	37.50	37.32	-0.18
27PZSPW02	31.00	36.90	36.45	-0.45
27PZVP65101	31.00	37.26	36.06	-1.20
69MW1510A	-49.63	45.68	46.78	1.10
69MW1510B	10.35	47.74	47.41	-0.33
69MW1515	-11.82	54.10	53.13	-0.97
69MW1518	-50.60	50.16	49.89	-0.27
69MW1538	-53.75	52.24	52.05	-0.19
69MW1541	-125.53	45.54	46.78	1.24
69MW1708B	-19.49	55.12	54.44	-0.68
69MW1710A	-120.41	33.39	32.58	-0.81
69MW1711A	-122.96	34.64	34.86	0.22
69MW1712A	-154.93	33.89	33.56	-0.33
69MW1712B	-105.33	33.99	33.56	-0.43
69MW1714A	-136.44	52.36	51.76	-0.60
69MW1714B	-47.03	52.63	52.04	-0.59
69MW1720A	-156.14	49.02	49.16	0.14
69MW1720B	-56.11	49.31	49.35	0.04
69PZ1506	43.00	49.68	49.40	-0.28
82MW0001A	-40.98	53.96	53.01	-0.95
82MW0005A	-38.03	43.07	43.90	0.83
82MW0006A	-137.85	44.96	45.77	0.81
82MW0006B	-22.85	45.40	45.85	0.45

Data Source: AFCEE, November 2007, MMR-AFCEE Data Warehouse

Mean Residual (ft)	**-0.208**
Minimum Residual (ft)	**-1.92**
Maximum Residual (ft)	**1.24**
Residual Standard Deviation (ft)	**0.562**

Key:
CS-23 = Chemical Spill-23
ft = feet
LF-1 = Landfill-1
msl = mean sea level

Table 2
June 2004 Steady-State Simulation Residuals
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Midscreen Elevation (ft msl)	Measured Groundwater Elevation (ft msl)	Simulated Groundwater Elevation (ft msl)	Model Residual (ft)
03MW0036	0.54	58.23	57.74	-0.49
03MW0048	5.84	56.86	56.23	-0.63
03MW0069	0.34	57.65	57.04	-0.61
27GB0022	-113.58	41.22	40.05	-1.17
27GB0022A	-61.27	41.21	40.78	-0.43
27MW0010	31.09	63.46	63.08	-0.38
27MW0016C	46.50	59.31	58.83	-0.48
27MW0017A	5.22	60.37	60.14	-0.23
27MW0017B	35.10	60.30	60.14	-0.16
27MW0018A	-25.70	60.43	60.02	-0.41
27MW0019	-1.20	60.25	59.80	-0.45
27MW0020A	-7.40	58.96	58.57	-0.39
27MW0020Z	-42.10	58.80	58.54	-0.26
27MW0021A	-19.00	59.18	58.78	-0.40
27MW0021B	10.30	59.27	58.85	-0.42
27MW0022	-42.00	54.60	54.03	-0.57
27MW0022A	-23.20	54.53	54.02	-0.51
27MW0023A	-10.62	54.71	54.21	-0.50
27MW0024A	-43.60	53.64	53.11	-0.53
27MW0024B	11.10	53.10	53.13	0.03
27MW0025	-84.60	51.62	49.98	-1.64
27MW0025A	-109.66	50.58	49.98	-0.60
27MW0026A	-39.49	51.39	50.98	-0.41
27MW0026B	-99.63	51.69	50.69	-1.00
27MW0027	-53.26	46.47	46.06	-0.41
27MW0028B	-19.30	47.18	46.76	-0.42
27MW0029	-29.63	52.68	52.13	-0.55
27MW0031A	-66.08	56.72	56.21	-0.51
27MW0031B	-19.47	56.76	56.31	-0.45
27MW0031C	35.20	56.81	56.30	-0.51
27MW0032	-10.62	54.04	53.20	-0.84
27MW0035Z	-128.18	45.25	44.70	-0.55
27MW0036B	-6.94	43.25	43.41	0.16
27MW0037A	-35.69	41.88	42.26	0.38
27MW0037Z	-130.58	41.62	41.55	-0.07
27MW0038	25.58	29.51	31.05	1.54
27MW0038A	-65.29	31.40	31.09	-0.31
27MW0038Z	-92.84	31.01	31.05	0.04
27MW0040	-58.56	31.33	31.16	-0.17
27MW0040A	-95.24	31.29	31.04	-0.25
27MW0041	-71.50	32.61	32.11	-0.50
27MW0043	-27.17	40.54	41.68	1.14
27MW0044	-103.49	28.08	27.87	-0.21
27MW0045	-105.46	28.31	28.81	0.50
27MW0046A	-105.40	22.82	23.13	0.31
27MW0050A	-77.52	14.77	14.69	-0.08
27MW0053	-104.76	21.16	21.38	0.22

Table 2
June 2004 Steady-State Simulation Residuals
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Midscreen Elevation (ft msl)	Measured Groundwater Elevation (ft msl)	Simulated Groundwater Elevation (ft msl)	Model Residual (ft)
27MW0056	-129.41	27.34	28.29	0.95
27MW0058	-128.70	29.29	28.80	-0.49
27MW0059	-136.38	16.77	17.14	0.37
27MW0061	-46.15	40.72	41.75	1.03
27MW0066	-126.74	12.95	13.12	0.17
27MW0073	-58.34	45.81	45.90	0.09
27MW0088	-27.50	52.04	51.83	-0.21
27MW0089	-29.49	49.02	49.00	-0.02
27MW0092A	-101.67	41.39	41.68	0.29
27MW0092B	-31.67	41.05	41.77	0.72
27MW0095	-125.04	57.93	57.35	-0.58
27MW0097A	-8.29	55.48	54.96	-0.52
27MW0097B	-108.33	55.50	54.66	-0.84
27MW0098	-2.13	49.46	49.17	-0.29
27MW0098B	-62.18	49.06	48.88	-0.18
27MW0101B	-27.09	47.19	47.14	-0.05
27MW0102A	-65.69	47.27	47.03	-0.24
27MW0102B	24.31	47.25	47.34	0.09
27MW0103B	49.44	54.51	54.15	-0.36
27MW0103Z	-58.79	54.63	53.94	-0.69
27MW0105B	-21.23	40.47	41.44	0.97
27MW0106A	-94.52	42.71	42.86	0.15
27MW0106B	-44.52	42.68	42.89	0.21
27MW0107A	-124.29	46.92	47.08	0.16
27MW0107B	15.71	47.67	47.37	-0.30
27MW0108A	-35.93	47.66	47.43	-0.23
27MW0108B	15.23	47.80	47.56	-0.24
27MW0109A	-132.10	12.32	13.51	1.19
27MW0109B	-34.10	14.25	13.78	-0.47
27MW0567A	-31.20	24.18	24.84	0.66
27MW0567E	-146.61	23.51	24.80	1.29
27MW0568A	-50.10	13.36	12.80	-0.56
27MW0601A	-27.84	46.64	46.23	-0.41
27MW0601B	-5.62	46.88	46.31	-0.57
27MW0602E	48.00	48.10	47.45	-0.65
27MW0701A	-34.02	57.44	56.00	-1.44
27MW0702	58.00	58.39	57.73	-0.66
27MW2061	58.55	59.93	60.09	0.16
27MW2071	58.27	59.64	59.54	-0.10
27MW2082	2.05	58.03	57.62	-0.41
27MW2101A	-123.31	42.19	41.65	-0.54
27MW2104A	4.61	42.30	42.65	0.35
27MW2106A	-119.67	40.04	39.70	-0.34
27MW2117A	-55.07	44.43	44.62	0.19
27MW2118A	-20.13	44.62	44.92	0.30
27MW2119A	-109.46	40.39	39.88	-0.51
27MW2120A	-74.40	40.32	40.13	-0.19

Table 2
June 2004 Steady-State Simulation Residuals
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Midscreen Elevation (ft msl)	Measured Groundwater Elevation (ft msl)	Simulated Groundwater Elevation (ft msl)	Model Residual (ft)
27MW2130A	-84.84	47.19	46.95	-0.24
27MW2130B	-4.59	47.00	47.14	0.14
27MW2131A	-106.49	40.21	40.68	0.47
27MW2132A	-26.10	40.44	40.64	0.20
27MW2134A	-151.69	57.81	57.25	-0.56
27MW2134B	-19.20	57.87	57.35	-0.52
27MW2136A	-82.78	47.30	47.16	-0.14
27MW2136B	-35.22	47.02	47.23	0.21
27MW2137A	-24.96	42.31	42.13	-0.18
48MW0004	54.75	56.27	55.45	-0.82
69MW1502	-122.26	43.57	43.65	0.08
69MW1701A	-24.75	46.56	46.39	-0.17
69MW1702A	-88.12	51.24	50.24	-1.00
69MW1706A	-79.07	41.76	42.05	0.29
69MW1703B	-28.99	41.93	42.17	0.24
69MW1706A	-99.12	41.63	42.11	0.48
69MW1706B	-39.18	41.84	42.17	0.33
69MW1707A	-77.33	41.97	42.40	0.43
69MW1707B	-47.68	42.04	42.41	0.37
69MW1708A	-110.17	51.71	50.89	-0.82
69MW1708B	-110.17	51.78	50.89	-0.89
69MW1709A	-92.20	46.28	46.31	0.03
69MW1709B	-92.03	47.00	46.32	-0.68
69PZ1506	45.40	45.97	45.64	-0.33
69PZ1531	43.00	45.17	44.93	-0.24
82MW0002A	-96.35	46.31	46.20	-0.11
82MW0002B	-41.17	46.48	46.24	-0.24
82PZ0006	35.13	43.13	43.05	-0.08

Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

Mean Residual (ft)	**-0.170**
Minimum Residual (ft)	**-1.64**
Maximum Residual (ft)	**1.54**
Residual Standard Deviation (ft)	**0.527**

Key:
CS-23 = Chemical Spill-23
ft = feet
LF-1 = Landfill-1
msl = mean sea level

Table 3
April 2007 Model-Predicted and Observed Groundwater Elevation Differences
at Selected Monitoring Well Pairs
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location 1 Identification	Location 2 Identification	Calculated Groundwater Elevation Difference (ft)	Simulated Groundwater Elevation Difference (ft)	Model Residual (ft)	Pre-Recalibration Simulated Groundwater Elevation Difference (ft)	Pre-Recalibration Model Residual (ft)
27MW0028B	27MW2136B	-0.09	-0.59	-0.50	-0.59	-0.50
27MW0037A	27MW0037Z	-0.28	0.78	1.06	1.06	1.34
27MW1010B	27MW1010A	-0.01	0.15	0.16	0.37	0.38
27MW2132A	27GB0022A	-0.87	-0.29	0.58	0.09	0.96
27MW2137A	27MW0037A	0.22	-0.09	-0.31	-0.14	-0.36
27MW2137A	27MW0037Z	-0.06	0.69	0.75	0.92	0.98
27PZ0030B	27PZ0030A	-0.03	0.00	0.03	0.00	0.03
27PZ0030C	27PZ0030A	-0.01	-0.13	-0.12	-0.12	-0.11
27PZ0030C	27PZ0030B	0.02	-0.13	-0.15	-0.12	-0.14
27PZSP01	69MW1714A	-0.84	0.43	1.27	0.48	1.32
27PZSP01	69MW1714B	-1.11	0.15	1.26	0.15	1.26
69MW1510A	69MW1541	0.14	0.00	-0.14	0.00	-0.14
69MW1510B	69MW1510A	2.06	0.63	-1.43	0.62	-1.44
69MW1510B	69MW1541	2.20	0.63	-1.57	0.62	-1.58
69MW1710A	69MW1712A	-0.50	-0.98	-0.48	-1.09	-0.59
69MW1712B	69MW1710A	0.60	0.98	0.38	1.09	0.49
69MW1712B	69MW1712A	0.10	0.01	-0.09	0.01	-0.09
69MW1714B	69MW1714A	0.27	0.28	0.01	0.33	0.06
69MW1720B	69MW1720A	0.29	0.19	-0.10	0.21	-0.08
82MW0006B	82MW0006A	0.44	0.08	-0.36	0.08	-0.36

Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

	Mean Residual (ft)	**0.012**	**0.071**
	Minimum Residual (ft)	**-1.57**	**-1.58**
	Maximum Residual (ft)	**1.27**	**1.34**
	Residual Standard Deviation (ft)	**0.749**	**0.820**

Key:
CS-23 = Chemical Spill-23
ft = feet
LF-1 = Landfill-1
msl = mean sea level

Table 4
June 2004 Model-Predicted and Observed Groundwater Elevation Differences
at Selected Monitoring Well Pairs
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location 1 Identification	Location 2 Identification	Calculated Groundwater Elevation Difference (ft)	Simulated Groundwater Elevation Difference (ft)	Model Residual (ft)	Pre-Recalibration Simulated Groundwater Elevation Difference (ft)	Pre-Recalibration Model Residual (ft)
27GB0022	27MW2106A	1.18	0.35	-0.83	0.31	-0.87
27GB0022A	27GB0022	-0.01	0.72	0.73	0.85	0.86
27GB0022A	27MW2106A	1.17	1.07	-0.10	1.15	-0.02
27MW0017A	27MW0018A	-0.06	0.12	0.18	0.12	0.18
27MW0017B	27MW0017A	-0.07	0.00	0.07	0.00	0.07
27MW0017B	27MW0018A	-0.13	0.12	0.25	0.13	0.26
27MW0020A	27MW0020Z	0.16	0.03	-0.13	0.03	-0.13
27MW0021B	27MW0021A	0.09	0.07	-0.02	0.08	-0.01
27MW0022A	27MW0022	-0.07	-0.01	0.06	-0.01	0.06
27MW0024B	27MW0024A	-0.54	0.02	0.56	0.02	0.56
27MW0025	27MW0025A	1.04	0.00	-1.04	0.00	-1.04
27MW0026A	27MW0026B	-0.30	0.29	0.59	0.42	0.72
27MW0027	69MW1709B	-0.53	-0.26	0.27	-0.21	0.32
27MW0028B	27MW0107A	0.26	-0.32	-0.58	-0.19	-0.45
27MW0028B	27MW2136A	-0.12	-0.41	-0.29	-0.35	-0.23
27MW0028B	27MW2136B	0.16	-0.47	-0.63	-0.47	-0.63
27MW0031B	27MW0031A	0.04	0.10	0.06	0.12	0.08
27MW0031C	27MW0031A	0.09	0.08	-0.01	0.11	0.02
27MW0031C	27MW0031B	0.05	-0.02	-0.07	-0.01	-0.06
27MW0036B	27MW2101A	1.06	1.77	0.71	2.46	1.40
27MW0036B	27MW2106A	3.21	3.71	0.50	4.36	1.15
27MW0037A	27MW0037Z	0.26	0.71	0.45	0.99	0.73
27MW0038	27MW0038A	-1.89	-0.04	1.85	-0.04	1.85
27MW0038	27MW0038Z	-1.50	0.00	1.50	0.17	1.67
27MW0038A	27MW0038Z	0.39	0.04	-0.35	0.20	-0.19
27MW0040	27MW0040A	0.04	0.12	0.08	0.12	0.08
27MW0043	27MW0092A	-0.85	0.00	0.85	0.12	0.97
27MW0043	27MW2131A	0.33	1.01	0.68	1.19	0.86
27MW0089	27MW0098B	-0.04	0.12	0.16	0.12	0.16
27MW0092A	27MW2131A	1.18	1.00	-0.18	1.06	-0.12
27MW0092B	27MW0092A	-0.34	0.09	0.43	0.21	0.55
27MW0092B	27MW2131A	0.84	1.09	0.25	1.27	0.43
27MW0097A	27MW0097B	-0.02	0.31	0.33	0.33	0.35
27MW0098A	27MW0089	0.44	0.17	-0.27	0.32	-0.12
27MW0098A	27MW0098B	0.40	0.29	-0.11	0.45	0.05
27MW0101B	27MW2130A	0.00	0.19	0.19	0.17	0.17
27MW0102B	27MW0102A	-0.02	0.31	0.33	0.43	0.45
27MW0103B	27MW0103Z	-0.12	0.21	0.33	0.16	0.28
27MW0105B	27MW2119A	0.08	1.56	1.48	2.00	1.92
27MW0105B	27MW2120A	0.15	1.31	1.16	1.74	1.59
27MW0105B	27MW2131A	0.26	0.76	0.50	1.13	0.87
27MW0106B	27MW0106A	-0.03	0.03	0.06	0.07	0.10
27MW0107B	27MW0028B	0.49	0.61	0.12	0.63	0.14
27MW0107B	27MW0107A	0.75	0.29	-0.46	0.44	-0.31
27MW0107B	27MW2136A	0.37	0.20	-0.17	0.28	-0.09
27MW0107B	27MW2136B	0.65	0.14	-0.51	0.16	-0.49
27MW0108B	27MW0108A	0.14	0.12	-0.02	0.30	0.16
27MW0109B	27MW0109A	1.93	0.27	-1.66	0.25	-1.68
27MW0567A	27MW0567E	0.67	0.04	-0.63	0.03	-0.64
27MW0601A	27MW0027	0.17	0.17	0.00	0.18	0.01
27MW0601B	27MW0027	0.41	0.24	-0.17	0.27	-0.14
27MW0601B	27MW0601A	0.24	0.08	-0.16	0.08	-0.16

Table 4
June 2004 Model-Predicted and Observed Groundwater Elevation Differences
at Selected Monitoring Well Pairs
LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results Project Note

Location 1 Identification	Location 2 Identification	Calculated Groundwater Elevation Difference (ft)	Simulated Groundwater Elevation Difference (ft)	Model Residual (ft)	Pre-Recalibration Simulated Groundwater Elevation Difference (ft)	Pre-Recalibration Model Residual (ft)
27MW0702	03MW0036	0.16	-0.01	-0.17	-0.01	-0.17
27MW2104A	27GB0022	1.08	2.59	1.51	3.18	2.10
27MW2104A	27GB0022A	1.09	1.87	0.78	2.34	1.25
27MW2104A	27MW0036B	-0.95	-0.76	0.19	-0.87	0.08
27MW2104A	27MW2101A	0.11	1.00	0.89	1.60	1.49
27MW2104A	27MW2106A	2.26	2.94	0.68	3.49	1.23
27MW2106A	27MW2101A	-2.15	-1.94	0.21	-1.89	0.26
27MW2118A	27MW2117A	0.19	0.30	0.11	0.75	0.56
27MW2120A	27MW2119A	-0.07	0.25	0.32	0.26	0.33
27MW2130B	27MW0101B	-0.19	0.00	0.19	0.19	0.38
27MW2130B	27MW2130A	-0.19	0.19	0.38	0.36	0.55
27MW2132A	27GB0022	-0.78	0.59	1.37	1.06	1.84
27MW2132A	27GB0022A	-0.77	-0.14	0.63	0.21	0.98
27MW2132A	27MW2119A	0.05	0.76	0.71	1.17	1.12
27MW2132A	27MW2120A	0.12	0.51	0.39	0.91	0.79
27MW2134B	27MW2134A	0.06	0.10	0.04	0.12	0.06
27MW2136A	27MW0107A	0.38	0.08	-0.30	0.16	-0.22
27MW2136B	27MW0107A	0.10	0.15	0.05	0.28	0.18
27MW2136B	27MW2136A	-0.28	0.07	0.35	0.12	0.40
27MW2137A	27MW0037A	0.43	-0.13	-0.56	-0.18	-0.61
27MW2137A	27MW0037Z	0.69	0.58	-0.11	0.81	0.12
69MW1701A	82MW0002A	0.25	0.19	-0.06	0.20	-0.05
69MW1701A	82MW0002B	0.08	0.15	0.07	0.16	0.08
69MW1703A	69MW1706A	0.13	-0.06	-0.19	-0.07	-0.20
69MW1703B	69MW1703A	0.17	0.13	-0.04	0.11	-0.06
69MW1703B	69MW1706A	0.30	0.07	-0.23	0.04	-0.26
69MW1703B	69MW1706B	0.09	0.00	-0.09	-0.03	-0.12
69MW1706B	69MW1703A	0.08	0.13	0.05	0.14	0.06
69MW1706B	69MW1706A	0.21	0.06	-0.15	0.06	-0.15
69MW1707B	69MW1707A	0.07	0.01	-0.06	0.02	-0.05
82MW0002B	82MW0002A	0.17	0.04	-0.13	0.04	-0.13

Data Source: AFCEE, January 2012, MMR-AFCEE Data Warehouse

Mean Residual (ft)	**0.159**		**0.284**
Minimum Residual (ft)	**-1.66**		**-1.68**
Maximum Residual (ft)	**1.85**		**2.10**
Residual Standard Deviation (ft)	**0.566**		**0.687**

Key:
CS-23 = Chemical Spill-23
ft = feet
LF-1 = Landfill-1
msl = mean sea level

ATTACHMENT C

Confirmation Of:		Date Held:	N/A
☐	Meeting	Location:	N/A
☐	Change Notice	Date Issued:	03 August 2012
☒	General Project Note	Recorded By:	Michael Basial
Subject: **LF-1/CS-23 2011 ADDITIONAL INFRASTRUCTURE PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS**		Issued By:	Nigel Tindall
EPA#: 16 - OU 01D - LANDFILL-1 GW PLUME; 25 - CHEMICAL SPILL-23		CH2M HILL TECHNICAL SERVICES GROUP MANAGER	

ITEM	REMARKS
1.0	**INTRODUCTION AND OBJECTIVES** This project note documents the setup, procedures and results for a Parameter Estimation (PEST) optimization modeling assessment of three additional infrastructure evaluations for the Landfill-1/Chemical Spill-23 (LF-1/CS-23) remedial system that were performed between July and December 2011. The *LF-1/CS-23 2011 PEST Optimization Modeling Results* project note (AFCEE 2012a) provides background information for the LF-1 and CS-23 plumes. The *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note (AFCEE 2012b) presents the PEST model setup and procedures implemented to perform the optimization assessment of the existing LF-1/CS-23 remedial system. This project note builds upon (and requires an understanding of) that existing infrastructure assessment (AFCEE 2012b), describes the changes in the PEST model setup and procedures needed to accommodate additional infrastructure scenarios, and provides the results of the three additional infrastructure optimization scenario assessments. This was intended to be a preliminary conceptual evaluation to assess the potential benefits of additional infrastructure for the LF-1/CS-23 remedial system.
2.0	**REMEDIAL SYSTEM OPTIMIZATION METHODOLOGY** The three additional infrastructure scenarios considered for optimization modeling were: • One additional extraction well • Two additional extraction wells • Accelerated cleanup (reduce restoration timeframe to approximately ten years) The goal of the one- and two-additional extraction well optimization assessments was to evaluate whether the installation and operation of one or two additional LF-1/CS-23 extraction wells would minimize the total lifecycle costs of the remedial system while meeting the remedial design objectives of plume containment at the base boundary (AFCEE 2007a,b). The goal of the accelerated cleanup optimization assessment was to identify an operational scenario that would reduce concentrations of the primary LF-1/CS-23 contaminants of concern (COCs),

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	tetrachloroethene (PCE) and trichloroethene (TCE), below the maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) within approximately ten years (including one year of construction to install the conceptual additional infrastructure, and eight to nine years of system operation). The two operational scenarios presented in the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note (AFCEE 2012b) are referred to herein as: • Pre-PEST operation [the operation of the LF-1/CS-23 remedial system (2008 Scenario 02) before the PEST optimization of the existing infrastructure] • Optimized existing infrastructure [the operation of the LF-1/CS-23 remedial system after the PEST optimization (2011 Scenario 01)]
2.1	**ONE- AND TWO-ADDITIONAL EXTRACTION WELL SCENARIOS** The setup and procedures for the one- and two-additional extraction well scenarios were very similar to those described in *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note (AFCEE 2012b). The minor changes in the PEST optimization process for one and two additional extraction wells are described below.
2.1.1	**Locations of Additional Extraction Wells** The conceptual locations for the additional extraction wells are within the core of the plume, upgradient of the existing remedial system (Figure 1). A brief assessment was performed to confirm that the extraction wells and accompanying infrastructure could likely be installed at (or near) those locations. The screen elevations for the additional extraction wells were chosen to focus the groundwater extraction on the portions of the aquifer containing the higher-concentrations of the plume. Well construction details for the additional infrastructure extraction wells are presented in Table 1. Note that the simulated additional extraction wells were placed strategically near the higher concentration area of the 2007 LF-1 plume shell in an effort to decrease the restoration timeframe for the LF-1 plume. Since PCE and TCE concentrations have decreased in this area of the plume between 2007 and 2011, the relevance of this conceptual layout may no longer be appropriate to address the most current distribution of contamination.
2.1.2	**Groundwater Model Setup** The groundwater flow and transport model used for this optimization assessment was MODFLOW-2000 (USGS 2000) and MT3DMS (Zheng 1999), and is the same model that was used for the existing infrastructure optimization assessment. The *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note provides a detailed description of this groundwater model (AFCEE 2012b).

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	For the purposes of this optimization evaluation, groundwater extracted by the additional infrastructure extraction wells AIEW0001, AIEW0002A, and AIEW0002B was assumed to be treated via granular activated carbon (GAC) and then returned to the aquifer through either reinjection or infiltration in a manner that was not disruptive to the groundwater flow field. The reinjection/infiltration of treated water from the additional infrastructure wells was not simulated. If one or more of these extraction wells were to be added to the treatment system, the reinjection/infiltration of treated water would need to be evaluated, including the associated capital and operational costs.
2.1.3	**Electrical Costs for Additional Extraction Wells** Electrical costs are a substantial fraction of the total lifecycle cost of operating a Massachusetts Military Reservation (MMR) pump and treat remedial system. The interaction between extraction well flow rates and treatment system pipeline pressures can result in significant changes in the power required to operate the remedial system with relatively small changes in extraction well flow rates. The PIPE-FLO pipe hydraulics program (Engineered Software 2008) had previously been used to construct a model of the LF-1/CS-23 remedial system and its associated network of pipes, valves, and pumps. The LF-1/CS-23 PIPE-FLO model was utilized during the PEST optimization assessment of the existing remedial system to provide accurate electrical cost estimates. However, a PIPE-FLO model was not built for each of the additional infrastructure scenarios because of the significant effort required. Instead, electrical costs for additional infrastructure extraction wells were estimated by calculating the average horsepower per gallon-per-minute (gpm) for the existing extraction wells, and applying that rate to additional infrastructure extraction wells.
2.1.4	**Capital Costs for Additional Infrastructure** Capital costs for the conceptual extraction wells, pipelines, infiltration galleries and treatment plants were calculated with input from the Air Force Center for Engineering and the Environment (AFCEE) based on recent MMR remedial system infrastructure construction costs.
2.2	**ACCELERATED CLEANUP SCENARIO** Changes to the PEST setup and procedures for the accelerated cleanup scenario were more extensive than those required for the one- and two-additional extraction well scenarios. The accelerated cleanup scenario was designed with a goal of achieving restoration of the aquifer in approximately ten years (assuming one year of additional infrastructure construction, and eight to nine years of system operation). Achieving this goal required additional remedial system components including: 11 extraction wells, two large treatment plants comparable in size to the Hunter Avenue Treatment Facility (HATF), two large infiltration galleries, and approximately 15,000 feet of pipeline. Changes to the groundwater flow and transport model and PEST optimization model included: the duration of simulations, the initial concentrations of the transport simulation, electricity cost assumptions, and remediation targets. The resulting changes to the PEST optimization process are described below.

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2.2.1	**Locations of Additional Extraction Wells** The conceptual locations for the accelerated cleanup scenario extraction wells were identified in an iterative process that included particle tracking simulations and solute transport simulations. This iterative process was used to identify areas of slow-moving groundwater. By adding extraction wells to locations where preliminary simulations suggested longer cleanup times, the simulated restoration timeframe was eventually reduced to meet the nine year restoration target. A conceptual layout of extraction wells and accompanying infrastructure are depicted on Figure 2 for the accelerated cleanup scenario. The accelerated cleanup conceptual design was not intended as a statement of constructability, and would require extensive additional design work prior to construction. Well construction recommendations for the additional infrastructure extraction wells are presented in Table 1.
2.2.2	**Initial Concentrations** The 2007 PCE and TCE plume shells were combined for use in the LF-1/CS-23 remedial system PEST optimization assessment (AFCEE 2012b) because concentrations in the plume had not changed enough by 2009 (when the PEST optimization was initiated) to warrant a plume shell update. When this additional infrastructure evaluation began in 2011 it was recognized that concentrations throughout the plume had generally declined since 2007, most notably in the higher concentration area in the upgradient portion of the LF-1 plume. This was deemed acceptable at the time because this assessment was intended to be a preliminary conceptual evaluation to assess the potential benefits of additional infrastructure for the LF-1/CS-23 remedial system. However, given that the objective of the last scenario created (accelerated cleanup) was plume cleanup within a 10 year timeframe (including construction of the conceptual wellfield), a more representative initial concentration was required. The 2007 plume shell was advanced to 2010 in the transport model as a means of assessing the representativeness of the plume shell in comparison to the observed 2011 monitoring data. The distribution and concentrations of PCE and TCE predicted by the model in 2010 were more consistent with the data from the 2011 triennial sample event (in comparison to the 2007 plume shell, although the higher concentration area is still more conservative than observed data). Therefore, the initial PCE and TCE concentrations in the first time step of accelerated cleanup scenario is the 2007 plume shell advanced to 2010.
2.2.3	**Groundwater Model Setup** For the accelerated cleanup scenario, a transport simulation was constructed of ten 2-year increments to represent eight years of expanded remedial system operation and twelve years post-operation. Flow rates at each extraction well were allowed to change at the end of each of

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the first four 2-year increments, and were held constant during each increment. Each 2-year increment was simulated as steady-state flow conditions. Eight years of pumping was used to meet the goal of aquifer restoration within nine years to: (1) allow for flexibility and an additional year of natural attenuation of contamination left in low hydraulic conductivity units in the model between years eight and nine; and (2) to reduce computational run times; simulations of four 2-year time steps are completed more than four times faster than simulations of nine 1-year time steps. It was assumed that 2-year time steps were frequent enough to adapt flow rates to plume changes over time, and that the difference in cost between eight and nine years of operation was inconsequential for this exercise.

Increased groundwater extraction rates required changes to the locations where LF-1/CS-23 groundwater was treated and returned to the aquifer in the simulation. Groundwater extracted by the LF-1 extraction wells 27EW0001, 27EW0003, 27EW0004, and 27EW0005 continued to be treated via granular activated carbon (GAC) at the LF-1 treatment plant in the simulation and then returned to the aquifer through a reinjection well, infiltration trenches, and an infiltration gallery (Figure 2). A portion of the LF-1 treatment plant effluent is diverted seasonally (April through October) for irrigation purposes to the U.S. Department of Veterans Affairs (VA) Massachusetts National Cemetery. For the purposes of this (and previous) modeling exercises, an annualized average of 135 gpm of LF-1 treatment plant effluent is assumed to be diverted to the VA (AFCEE 2008 and 2009).

Groundwater extracted by CS-23 extraction wells 27EW0007 and 27EW0008 is treated via GAC at the HATF in the simulation, and then returned to the aquifer through the East and West infiltration trenches (Figure 1).

Groundwater extracted by LF-1 extraction wells 27EW0002, 27EW0006, and additional infrastructure extraction wells AIEW0007, AIEW0008, AIEW0009, and AIEW0010 is treated via GAC at the new southern treatment plant in the simulation, and returned to the aquifer through an infiltration gallery between Osborn and Edmunds Ponds to offset drawdown from the operation of the additional extraction wells (Figure 2).

Groundwater extracted by additional infrastructure extraction wells AIEW0001, AIEW0002, AIEW0003, AIEW0004, AIEW0005, AIEW0006, and AIEW0011 is treated via GAC at the new northern treatment plant in the simulation and returned to the aquifer through a northern infiltration gallery (Figure 2). In the simulation of the expanded conceptual remedial system, treated groundwater is discharged in the manner described above in quantities that equal the total extraction rate.

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2.2.4	**PEST Parameters** The goal of this PEST optimization modeling assessment performed for the LF-1/CS-23 remedial system was to reduce the restoration timeframe to nine years. Changes to the PEST setup are described below. Restoration Timeframe. The restoration timeframe for a plume is defined as the amount of time it takes for COC concentrations in groundwater to decline below their respective cleanup levels. This was the remediation target that PEST was instructed to achieve. The restoration timeframe was calculated from simulated plume volume time-series data (i.e., the aquifer volume containing concentrations above the PCE or TCE MCL) by using an exponential fit to identify the time at which the plume volume decreases to less than one model cell. Portions of the aquifer with low hydraulic conductivity (less than 5 feet per day) are considered unusable portions of the aquifer and were excluded from the plume volume calculations. The low hydraulic conductivity materials are difficult to flush (both in the simulation and in the field) because groundwater preferentially moves through higher-conductivity materials. The operation of an extraction well near a low hydraulic conductivity material with PCE and TCE above the MCL is unnecessary and does not result in faster cleanup. While PCE and TCE would be expected to gradually diffuse out of the low-conductivity materials, it would likely be a slow process that does not result in re-establishing concentrations above cleanup levels. If an accelerated cleanup treatment system was to be constructed, long term monitoring (LTM) after system shutdown would be necessary to verify this. Plume Containment. Plume containment was evaluated during this optimization, but PEST did not consider it in the objective function. The pumping rates necessary for the accelerated cleanup scenario were high enough that plume containment at the base boundary was easily achieved. Limiting Drawdown and Mounding at nearby Surface Water Bodies. This optimization target was evaluated, but not included in the objective function for the accelerated cleanup optimization. Limiting Total Lifecycle Cost. In contrast to the one- and two-additional extraction well scenarios in which limiting total lifecycle cost was the primary goal, cost was used as an optimization target in the accelerated cleanup scenario. Total lifecycle cost was a minor component of the optimization objective function, and helped reduce unnecessary pumping in areas where the plume was no longer present. As discussed in Section 2.1, estimated electrical and capital costs were based on input from AFCEE and on recent MMR remedial system infrastructure construction costs.

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2.2.5	**Remedial Design Constraints** The maximum pumping rate allowed at each of the 19 extraction wells in the accelerated cleanup scenario was set at 1,000 gpm in order to restrain PEST to what was believed to be a high, but achievable flow rate at MMR.
2.3	**PEST Modeling Process** The PEST model (Doherty 2004, 2010) was used to optimize the extraction well flow rates and predict the impact of those flow rates on plume behavior, cost, and wetland water levels. For the accelerated cleanup remedial system optimization, the parameters modified by PEST were the extraction rates at each of eight existing and eleven conceptual extraction wells in four 2-year increments, for a total of 76 parameters. PEST evaluated the impact of those flow rates on the rate of plume cleanup and lifecycle cost (Section 2.2.4). In the other optimization scenarios, PEST calculated improved flow rates by running an initial flow and transport simulation, making small changes to each of the extraction rates, and calculating the impact of each small change on the objective function. The results of all the small changes are then mathematically combined to solve for a set of extraction rates that improve the remedial system performance as measured by the targets. The process is repeated, using the new extraction rates as a starting point, until no further improvement in the objective function is achieved. This method was also used for initial attempts at optimizing the accelerated-cleanup scenario, but encountered difficulty reaching an acceptable solution (i.e., "final" results did not achieve the 9-year restoration timeframe). The solution method was changed to covariance matrix adaptation - evolutionary strategy (CMA-ES), which can be used to solve certain difficult optimization problems at the cost of more model runs (Doherty 2010). The CMA-ES algorithm relies on random sampling of the parameter space, with the randomness constrained by the results of previous simulations. In summary, the PEST model adjusted flow rates at each extraction well to first achieve the remediation target (plume cleanup in nine years), while staying within the remedial design constraints (maximum 1,000 gpm at each of 19 extraction wells), and aiming for the optimization target (lowest lifecycle cost).
3.0	**PEST OPTIMIZATION RESULTS** This section presents the results of PEST optimization of the one- and two-additional extraction well scenarios, and of the accelerated cleanup scenario. Some results from the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note (AFCEE 2012a) are included for context in the text and figures. Table 2 presents model-predicted performance metrics for the PEST-optimized additional infrastructure scenarios.

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	One of the results of this PEST optimization process was an optimized pumping schedule for the next 50 years of remedial system operation for the one- and two-additional extraction well scenarios. Figure 3 graphically shows the pumping schedule for the optimized operation (projected 50 years in 5-year time steps) in comparison to pre-PEST operation and current PEST-optimized pumping rates (using only existing extraction wells). The total optimized flow rates with additional extraction wells are initially higher than current flow rates, with the greatest pumping at 27EW0006 and the new extraction wells. The optimized pumping rates recommend an initial increase of approximately 500 gpm in the one-additional extraction well scenario, and an increase of approximately 1,300 gpm in the two-additional extraction well scenario. The early increase in pumping rates is followed by significant reductions in pumping rates in the one- and two-additional extraction well scenarios, with the two-additional extraction well scenario requiring no pumping to keep the plume on-base after 25 to 30 years, compared to 40 years for the other scenarios. However, given that PCE and TCE concentrations have decreased in the LF-1 plume between 2007 and 2011, the relevance of this conceptual layout may no longer be appropriate to address the most current distribution of contamination. The primary objective of the one- and two-additional extraction well scenarios was to reduce total lifecycle costs in comparison to the current PEST-optimized operation of the LF-1/CS-23 remedial system. The estimated total lifecycle cost for the one-additional extraction well scenario using the optimized pumping schedule depicted in Figure 3 is approximately $27 million over 50 years (nominal dollars), which is approximately $1 million less than the current PEST-optimized operation. The estimated total lifecycle cost for the two additional extraction well scenario using the optimized pumping schedule depicted in Figure 3 is approximately $24 million over 50 years (nominal dollars), which is approximately $4 million less than the current PEST-optimized operation. The estimated expenditures for the scenarios are shown on Figure 4. The dashed line represents the predicted cumulative cost reduction for each scenario compared to the pre-PEST operation. For the one-additional extraction well scenario, most of the cost reduction occurs in the first 25 years. The two-additional extraction wells scenario begins with additional expenditures (i.e., negative savings), but ends up with a lower lifecycle cost by cleaning up the plume faster, allowing for reduced pumping rates earlier than the pre-PEST operation. During PEST optimization of the one- and two-additional extraction well scenarios, results are calculated for a variety of different pumping schedules in order to achieve the final results (i.e., the lowest lifecycle cost of each scenario). A series of points depicting the tradeoff between total lifecycle cost and remediation timeframe are shown on Figure 5. As the predicted restoration timeframe becomes shorter, costs increase asymptotically for each scenario. In addition to reducing costs, increasing the pumping rates under the one- or two-additional extraction well scenarios is predicted to change the hydraulic impacts to surface water bodies.

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	The estimated drawdown at surface water bodies resulting from the one- and two-additional extraction well operation schedules are shown in Figure 6. The predicted hydraulic impacts for the one-additional extraction well scenario are slightly greater than the current PEST-optimized operation over 50 years due to a different ratio of pumping rates at the existing extraction wells. The two-additional extraction wells scenario shows a predicted initial additional impact of approximately 1.5 feet of drawdown at the wetlands due to the increased pumping rate at extraction well 27EW0002. The two-additional extraction wells scenario is predicted to have less hydraulic impact on the wetlands than other scenarios after 15 years with the future decline in pumping rates. Animations of the predicted transport simulations of the PCE and TCE plumes during 50 years of the one- and two-additional extraction well scenario pumping schedules are provided as Attachments 1 and 2. The animations include a depiction of the current PEST-optimized operation for comparison purposes. As with the current PEST-optimized operation, on-base portions of the PCE and TCE plumes are prevented from migrating any significant distance downgradient (west) of the base boundary by a combination of hydraulic control and natural attenuation. Small lobes of the plume cross the base boundary near extraction wells 27EW0002 and 27EW0006 10 years into both simulations, and near extraction wells 27EW0003 and 27EW0004 at 30 years into both simulations. The model predicts that both lobes are quickly attenuated and will not travel a significant distance beyond the base boundary. Overall, the predicted plume transport under the one- and two-additional extraction well scenario is similar to that of the PEST-optimized operation, although the additional extraction wells cause some reduction in plume width and concentrations in the core of the plume. Notably, the two-additional extraction well scenario eliminates the plume before the end of the 50-year simulation (2060), but the current PEST-optimized operation and the one-additional extraction well scenario retain small remnants of the plume in low-hydraulic-conductivity aquifer materials in the area upgradient (east) of the remedial system. Note that the transport simulations created for the LF-1 Feasibility Study (AFCEE 2006) (and used in support of the ROD [AFCEE 2007a]) had PCE concentrations above the MCL in low-hydraulic-conductivity aquifer materials at the end of the animation in 2058. Figure 7 illustrates the predicted PCE and TCE mass removal by the remedial system and the PCE and TCE mass lost to decay reactions under the various scenarios. The total simulated PCE and TCE mass (dissolved and adsorbed) in the transport model at the initial time step is approximately 1,000 pounds (lbs). The one- and two-additional extraction well scenarios are predicted to extract approximately 50 and 65 lbs more combined PCE and TCE than the current PEST-optimized operational condition over the next 40 years. PCE and TCE mass that is not captured by the system is either lost to decay, exits the model at sub-MCL concentrations, or remains in the model at sub-MCL concentrations at the end of the simulation.

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	Accelerated Cleanup Scenario The optimized pumping schedule for eight years of remedial system operation for the accelerated cleanup scenario is depicted graphically on Figure 8. In order to drastically reduce the restoration timeframe from approximately 40 years to approximately 10 years, the model predicts that as much as a sevenfold increase in pumping is necessary, to a total LF-1/CS-23 pumping rate as high as 11,800 gpm. The estimated total lifecycle cost of the accelerated cleanup scenario is approximately $31 million more than the PEST-optimized operation (total of $59 million), including the installation of extraction wells, construction of pipelines, infiltration galleries and two new treatment plants complete with GAC vessels. The aggressive pumping rates and corresponding infiltration of treated water would have major hydraulic effects, with up to 15 feet of drawdown and mounding predicted near the remedial system. This operational strategy would likely be very disruptive to surface water ecosystems as well, causing 6 to 7 feet of drawdown at Spectacle Wetland and Vernal Pool No. 651, 4 feet of drawdown as far as Route 28, and 3 to 4 feet of mounding at Edmunds and Osborn Pond (due to placement of an infiltration gallery between the ponds in an attempt to reduce drawdown effects). The predicted transport of the PCE and TCE plumes during the accelerated cleanup scenario's eight years of pumping is animated in Attachment 3. For comparison, the animation includes a depiction of the first 20 years of PEST-optimized operation. Dramatic differences in plume evolution are immediately obvious, with the plume broken into a handful of disconnected remnants by the 5th year of the simulation. By the time the accelerated cleanup pumping ceases, there is still a small area of the aquifer above MCLs in the vicinity of AIEW0011. This small remnant is confined to low-permeability aquifer materials in an unusable portion of the aquifer and is resistant to treatment by the nearby extraction well. Figure 7 illustrates the predicted PCE and TCE mass removal by the remedial system, and the PCE and TCE mass lost to decay reactions, under the accelerated-cleanup scenario. The accelerated-cleanup scenario is predicted to remove 90 percent of the initial contaminant mass after eight years. It should be noted that some subsurface processes are not accounted for in this simulation, such as back-diffusion of contaminants from low-permeability aquifer materials and dead-end pore space (i.e., dual-domain processes). The results depicted in this project note for the accelerated-cleanup scenario should be taken with caution.
4.0	**CONCLUSIONS** Optimized pumping schedules have been developed for the LF-1/CS-23 remedial system with one- and two-additional extraction wells that achieve the remedial design objective of plume containment at the base boundary as well as the current PEST-optimized operation, but at less cost (approximately $1 and $4 million less, respectively, over 50 years). The one-additional extraction well scenario is predicted to have similar hydraulic impacts than the current PEST-optimized operation on nearby ponds and wetlands, while the two-additional well scenario has

ITEM	REMARKS
	more hydraulic effects on nearby surface water bodies than current operation. The one-additional well scenario is not predicted to improve the restoration timeframe, but the two-additional extraction well scenario is predicted to shorten the restoration timeframe by approximately six years. The optimized operation of an expanded remedial system would not result in immediate cost reductions, and in the case of the two extraction well expansion, would incur substantial additional costs during early operation, with savings deferred for 20 years. However, given that PCE and TCE concentrations have decreased in the LF-1 plume between 2007 and 2011, the relevance of this conceptual layout may no longer be appropriate to address the most current distribution of contamination. An optimized pumping schedule has also been developed for the accelerated cleanup scenario of aquifer restoration in nine years. The results of this scenario should be viewed with caution due to the substantial adverse impacts predicted, the massive construction effort involved, and the compounded uncertainty associated with modeling of subsurface processes under extreme flow rates that have not been field-tested at MMR. The PEST model predicts that steep hydraulic gradients are necessary to accelerate groundwater flow velocities to achieve the high flow rates PEST requires in the accelerated cleanup scenario. It is not certain if the aquifer would respond to high flow rates in the manner that the PEST model predicts. In addition, desorption of contaminants from low-permeability aquifer materials and dead-end pore space is not accounted for in the model. LTM of the LF-1/CS-23 plumes would have to occur after system shut down to monitor for potential plume rebound. Long-term predictions of groundwater flow and transport are always accompanied by uncertainty, especially as the prediction timeframe moves farther into the future. In the case of the accelerated restoration timeframe scenario, there is higher than normal uncertainty due to the high predicted flow rates; for which the MMR groundwater models have not been calibrated with actual data. In addition, changes to the economic assumptions would result in different pumping schedules. For example, increasing the discount rate from 0 percent would create a tendency to pump less in the near-term, and more in the long-term. The automated optimization modeling described in this project note can be updated without great effort when new plume shells are created, or if the conceptual site model changes (e.g., aquifer test results, or the installation of monitoring wells suggest a revision to aquifer properties is warranted). Changes to the cost assumptions are also easily implemented.
5.0	**RECOMMENDATIONS** AFCEE will discuss these results with the regulatory agencies at a Technical Update meeting.

ITEM	REMARKS

6.0 REFERENCES

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Attachments:

Figure 1. LF-1 and CS-23 Groundwater Plumes and Remedial Systems with Potential Additional Extraction Well Locations
Figure 2. Conceptual Design for Accelerated Cleanup Scenario at LF-1 and CS-23
Figure 3. Comparison of Optimized Operation vs. Additional Infrastructure Pumping Rates
Figure 4. Estimated Cost of Optimized Operation vs. Additional Infrastructure Operation
Figure 5. Estimated Costs vs. Operational Lifetime of the Remedial System
Figure 6. Simulated Drawdown at Wetlands and Vernal Pools
Figure 7. Comparison of Simulated PCE and TCE Mass Removal by Extraction Wells and Decay Reactions
Figure 8. Accelerated Cleanup Pumping Rates
Table 1. Estimated Well Construction Information for Conceptual Extraction Wells
Table 2. LF-1/CS-23 PEST Optimization Additional Infrastructure Predicted Performance Metrics
Attachment 1. Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. One New Well Scenario
Attachment 2. Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. Two New Well Scenario
Attachment 3. Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. Accelerated Cleanup Scenario

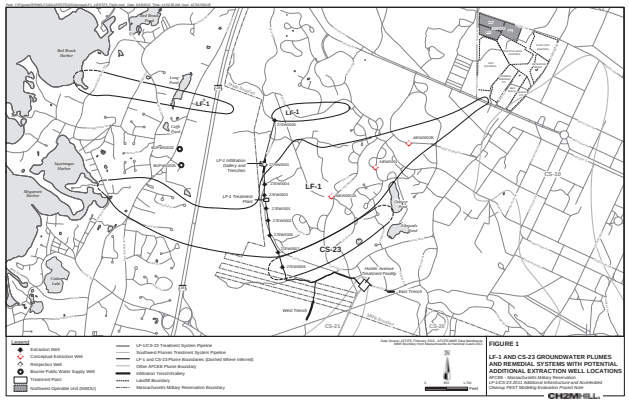


FIGURE 1

LF-1 AND CS-23 GROUNDWATER PLUMES AND REMEDIAL SYSTEMS WITH POTENTIAL ADDITIONAL EXTRACTION WELL LOCATIONS

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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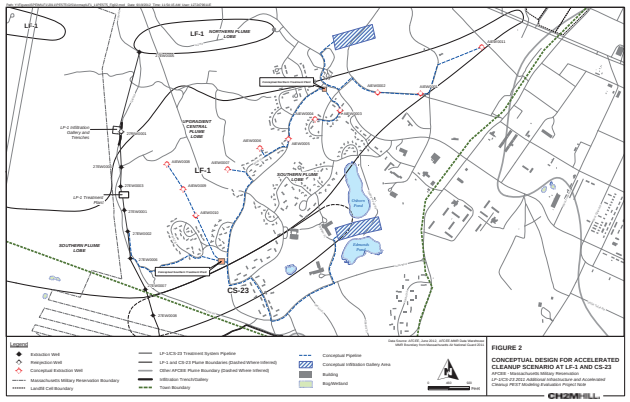
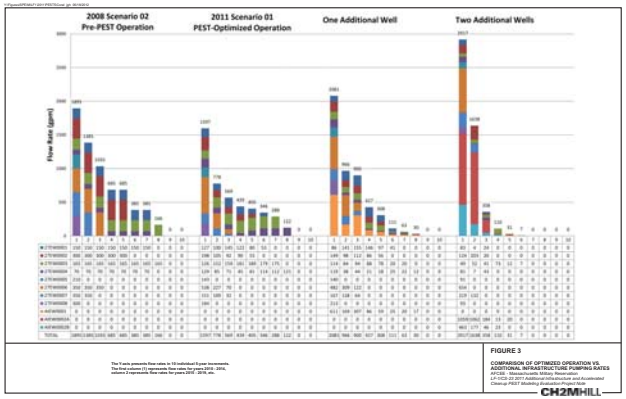


FIGURE 2

CONCEPTUAL DESIGN FOR ACCELERATED CLEANUP SCENARIO AT LF-1 AND CS-23

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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The Y-axis presents flow rates in 10 individual 5-year increments. The first column (1) represents flow rates for years 2006 - 2010, column 2 represents flow rates for years 2007 - 2011, etc.

FIGURE 3

COMPARISON OF OPTIMIZED OPERATION VS. ADDITIONAL INFRASTRUCTURE PUMPING RATES

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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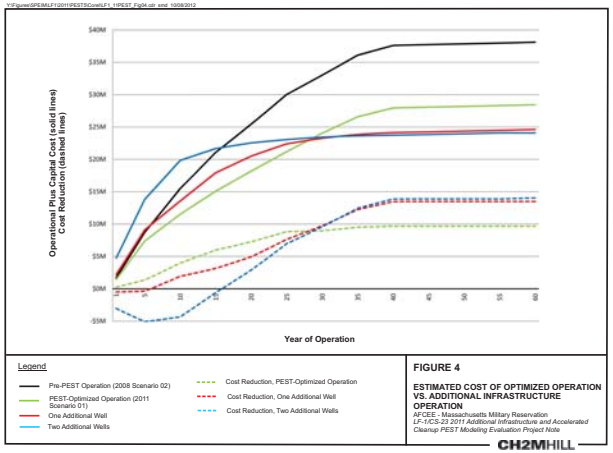


FIGURE 4

ESTIMATED COST OF OPTIMIZED OPERATION VS. ADDITIONAL INFRASTRUCTURE OPERATION

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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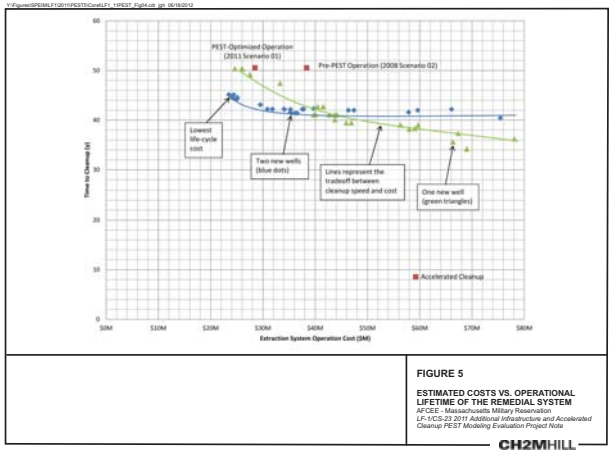


FIGURE 5

ESTIMATED COSTS VS. OPERATIONAL LIFETIME OF THE REMEDIAL SYSTEM

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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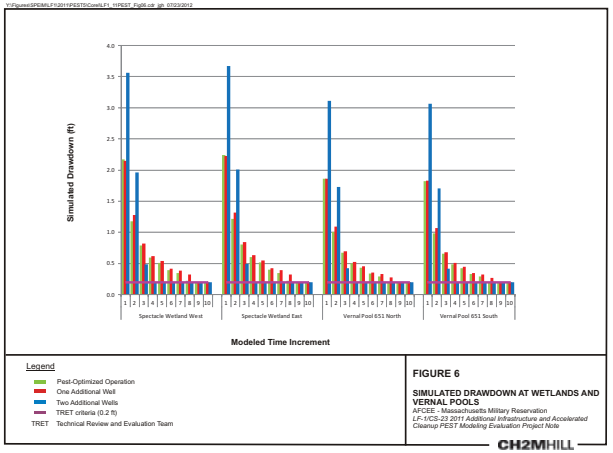


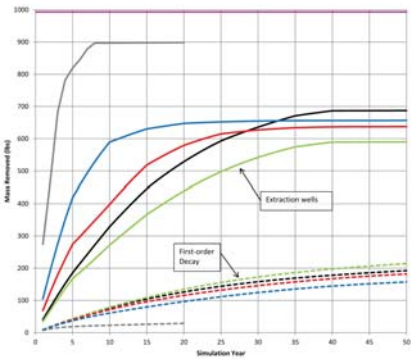
FIGURE 6

SIMULATED DRAWDOWN AT WETLANDS AND VERNAL POOLS

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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Legend

- Pre-PEST Operation (2008 Scenario 02)
- PEST-Optimized Operation (2011 Scenario 01)
- One Additional Well
- Two Additional Wells
- Accelerated Cleanup (11 Additional Wells)
- Total Initial Mass

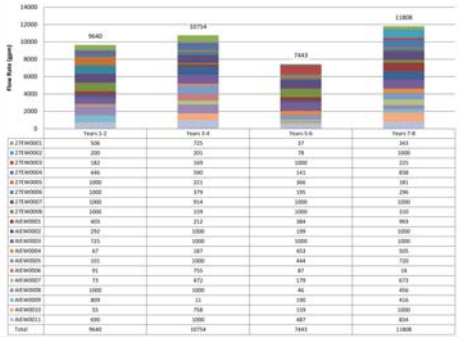
FIGURE 7

COMPARISON OF SIMULATED PCE & TCE MASS REMOVAL BY EXTRACTION WELLS AND DECAY REACTIONS

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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	Years 1-2	Years 3-4	Years 5-6	Years 7-8
■ 27EW0001	506	725	17	343
■ 27EW0002	200	201	78	1000
■ 27EW0003	182	169	1000	225
■ 27EW0004	446	390	141	838
■ 27EW0005	1000	221	866	181
■ 27EW0006	1000	379	195	296
■ 27EW0007	1000	914	1000	1000
■ 27EW0008	1000	159	1000	310
■ 6IEW0001	403	212	384	993
■ 6IEW0002	292	1000	199	1000
■ 6IEW0003	725	1000	1000	1000
■ 6IEW0004	67	187	453	505
■ 6IEW0005	101	1000	444	720
■ 6IEW0006	91	755	87	18
■ 6IEW0007	73	472	179	673
■ 6IEW0008	1000	1000	46	456
■ 6IEW0009	809	11	190	416
■ 6IEW0010	55	758	159	1000
■ 6IEW0011	690	1000	467	834
Total	9640	10754	7443	11808

FIGURE 8

ACCELERATED CLEANUP PUMPING RATES

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

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Table 1
Estimated Well Construction Information for Conceptual Extraction Wells
LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures, and Results Project Note

Location Identification	Easting (ft)	Northing (ft)	Top of Screen Elevation (ft msl)	Bottom of Screen Elevation (ft msl)
One-Additional-Well Scenario				
AIEW0001	852560	242227	-21	-108
Two-Additional-Well Scenario				
AIEW0002A	850790	241061	-32	-98
AIEW0002B	853907	243207	-12	-106
Accelerated Cleanup Scenario				
AIEW0001	854803	243201	-81	-136
AIEW0002	853841	243218	-85	-135
AIEW0003	853001	242818	-82	-134
AIEW0004	852442	242621	-25	-40
AIEW0005	851845	242186	-78	-128
AIEW0006	851203	241977	-80	-125
AIEW0007	850481	241503	-77	-127
AIEW0008	849120	241617	-77	-112
AIEW0009	849486	241060	-78	-118
AIEW0010	849768	240462	-76	-121
AIEW0011	849768	240462	-80	-90

Key:
ft = feet
msl = mean sea level

Table 2
LF-1/CS-23 PEST Optimization Additional Infrastructure Predicted Performance Metrics
LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures, and Results Project Note

	Transport Model Predictions								
Operational Scenario	System shut down date[1]	Clean Year (< MCL)[1,2]	Plume Shell Year[3]	Plume Shell Description	Full or Cutoff Plume Shell	Initial dissolved and adsorbed PCE and TCE Mass in model (lbs)	Cumulative PCE and TCE Mass removed[4] (lbs)	Total Capital Cost ($M)	Total Lifecycle Cost (including capital cost) ($M)[5]
ROD	2043	2045	2004	Separate PCE and TCE	Full	1,093	750	$1	$44
2008 Scenario 02 (Pre-PEST Optimization)	2050	2058	2007	Separate PCE and TCE	Full	897	687	$0	$38
2011 Scenario 01 (PEST Optimized Flows)	2050	2061	2007	Combined PCE/TCE	Cutoff	994	589	$0	$28
1 Additional Well	2050	2061	2007	Combined PCE/TCE	Cutoff	994	637	$2	$27
2 Additional Wells	2035	2055	2007	Combined PCE/TCE	Cutoff	994	652	$5	$24
Accelerated Cleanup	2019	2030	2007	Combined PCE/TCE	Cutoff	994	897	$26	$59

Notes:
[1] ROD system shut down date and aquifer restoration timeframe date estimated from animation with 3 year timesteps; the 2008 Scenario 02 shut down and restoration timeframe dates estimated from animations with 1 year timesteps; the accelerated cleanup shut down and restoration timeframe dates estimated from animation with 2 year timesteps; the 2011 Scenario 01 and 1 and 2 additional well scenario shut down and restoration dates estimated from animations with 5 year timesteps.
[2] The clean year (restoration timeframe) presented in the ROD was approximately 2045. However, the model simulations provided in support of the ROD restoration timeframe indicate that PCE concentrations are present at concentrations above the MCL at the end of the animation in 2058. The restoration timeframes presented for 2008 Scenario 02 and the PEST-optimized scenarios represent the year in which all PCE and TCE concentrations decline below the MCL.
[3] The initial concentration for the accelerated cleanup scenario is the 2007 plume shell advanced in the groundwater model to 2010.
[4] The ROD and 2008 Scenario 02 mass removal estimates are calculated by summing the mass removal estimates for two separate model runs (one with the PCE plume shell and one with the TCE plume shell). The PEST generated mass removal estimates are calculated using a combined PCE/TCE plume shell and do not allow a direct comparison to the separate PCE and TCE plume shells. However, restoration timeframe estimates are comparable.
[5] The estimated total lifecycle costs are order-of-magnitude cost estimates that are expected to be within +/- 50% of the actual costs.
[5] 2008 Scenario 02 total lifecycle cost estimate assumes a constant flow rate at each extraction well until shutdown of that well. The other lifecycle cost estimates (PEST flow rates) assumed changing flow rates every 2 or 5 years.
[5] The one and two additional well scenario cost estimates did not include costs associated with infiltration/reinjection of treated water

Key:
gpm = gallons per minute
lb = pounds
MCL = maximum contaminant level
ROD = record of decision

ATTACHMENT 1

Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. One New Well Scenario

(Available Upon Request)

ATTACHMENT 2

Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. Two New Well Scenario

(Available Upon Request)

ATTACHMENT 3

Comparison of Simulated PCE and TCE Plume Concentrations, Optimized Operation vs. Accelerated Cleanup Scenario

(Available Upon Request)

ATTACHMENT D

CH2M HILL
1748 West Truck Road
Otis ANGB, MA 02542

08 November 2012

Mr. Jonathan S. Davis
Remediation Program Manager
HQ AFCEC/MMR
322 East Inner Road
Otis ANG Base, MA 02542-5028

SUBJECT: AFCEC 4P08 FA8903-08-D-8769; Task Order 0300
MMR SPEIM/LTM/O&M Program
CDRL #A001k
Response to Comments on the Draft LF-1/CS-23 2011 Infrastructure Pest Optimization Model Setup, Procedures and Results Project Note and the Draft LF-1/CS-23 2011 Additional Infrastructure Pest Optimization Model Setup, Procedures and Results Project Note

Dear Mr. Davis:

As directed by the Air Force Civil Engineer Center, CH2M HILL is hereby providing one unbound and one compact disc (CD) copy of the Response to Comments for the *Draft LF-1/CS-23 2011 Infrastructure Pest Optimization Model Setup, Procedures and Results* Project Note dated June 2012 and the *Draft LF-1/CS-23 2011 Additional Infrastructure Pest Optimization Model Setup, Procedures and Results* Project Note dated August 2012.

Outstanding issues with regard to these responses are expected to be resolved at the next Technical Update meeting, which is tentatively scheduled for 28 November 2012.

If you have any questions or comments, please contact Rose Forbes at (508) 968-4670, extension 5613.

Sincerely,

CH2M HILL

N. Tindall

Nigel Tindall
Project Manager

Enclosures: (1 unbound & 1 CD)

c: Rose Forbes, AFCEE/MMR
Administrative Record (1 CD)
Document Control, CH2M HILL (1)

THE AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
RESPONSES TO U.S. EPA COMMENTS ON THE
LF-1/CS-23 2011 PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS PROJECT NOTE DATED JUNE 2012

GENERAL COMMENTS:

1. At this time, EPA does not agree to the proposed extraction rates for the LF-1/ CS-23 treatment systems until we have the opportunity to review and comment on Step-2 analysis which evaluates in-plume groundwater remediation.

   EPA believes that Step-2 is a key piece to evaluating the overall remedy for LF-1 because Step-1 analysis was constrained to consider only re-allocation of pumping among the existing network of extraction wells. The project note concludes that the proposed changes have little effect on the overall cleanup time for the LF-1 plume, because that is constrained by the travel time from contaminated upgradient domains to the extraction fence (see, e.g., p. 3, sec. 3.0, last bullet). EPA believes that restoration time frames for the productive part of the aquifer could benefit from additional extraction within the plume which could facilitate achieving the restoration time frames originally established in the ROD. EPA notes that in plume extraction was not selected as part of the original remedy in part because of the added costs. However, if significant cost savings can be realized by altering the pumping scenarios of the base boundary wells, then the addition of in plume extraction may now be a practical option. Therefore, the analysis is not complete without considering all aspects of the optimization.

   Response: AFCEE is rescinding the proposal to implement PEST-optimized flow rates for the LF-1/CS-23 remedial system as presented in the *Draft LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note. Based on the nature of the review comments received on the project notes that present the approach and results of the PEST modeling evaluations completed at LF-1/CS-23 and on discussions with the regulatory agencies during recent Technical Update meetings, there has been an over emphasis in the decision-making process placed on the long-term plume cleanup predictions generated by the LF-1/CS-23 groundwater modeling completed as part of the PEST evaluation. AFCEE does not plan to finalize the project notes associated with the PEST modeling effort. However, AFCEE believes the knowledge that was gained during the PEST modeling effort related to remedial system operation and managing the inherent uncertainty associated with plume cleanup with a groundwater modeling based approach is valuable and broadens our team's understanding of implementing effective optimization strategies.

   As discussed at the 28 August 2012 Technical Update meeting and as presented in the LF-1/CS-23 Annual SPEIM Data Presentation at the 27 September 2012 Technical Update meeting, groundwater monitoring data collected from monitoring wells located throughout the LF-1 and CS-23 plumes indicate that contaminant concentrations are generally declining faster than has been predicted by recent modeling evaluations that used the 2007 version of the LF-1/CS-23 plume shell

(PEST modeling and as part of the *Final LF-1/CS-23 2007 Plume Update Technical Memorandum* [AFCEE 2009]). These monitoring data indicate that the recent modeling predictions using the 2007 version of the plume shell over-predict both plume extent and contaminant concentrations in the short-term (five years). This effect is likely compounded in the longer-term modeling results (greater than 20 years out).

As a next step, AFCEE will perform a comprehensive sampling event at LF-1/CS-23 in 2013, update the LF-1/CS-23 plume shell, and assess the performance of the remedial system using the most current monitoring data. During this modeling exercise, optimization opportunities will also be evaluated. AFCEE will reserve an in-depth discussion regarding ROD goals and the long-term iterative nature of optimization for future technical interchanges during the planning stage of the optimization evaluation.

AFCEE has returned LF-1/CS-23 remedial system flow rates to the 2008 Scenario 02 condition (i.e., pre-PEST), with the exception of 27EW0002. When PEST flow rates were implemented in March 2011 (based on an interim agreement with the regulatory agencies reached at the 16 March 2011 Technical Update meeting), the pump size at 27EW0002 was reduced for efficiency purposes given the reduction in flow rate at that well. The new pump will now achieve a maximum flow rate of approximately 250 gpm (50 gpm less than the 2008 Scenario 02 flow rate). This marginally lower flow rate at 27EW0002 will have no effect on the ability of the remedial system as a whole to maintain hydraulic capture of the plume due to the fence configuration of the extraction wells. The result of pumping 50 gpm less only represents a 3 percent reduction in the total flow rate of the extraction fence in that area (1,658 gpm for all extraction wells except 27EW0005). The 2008 Scenario 02 flow rates presented in the 2007 plume update technical memorandum provided hydraulic capture of the LF-1/CS-23 plumes based on the plume extent at that time (AFCEE 2009). Given that the remedial system has operated at 2008 Scenario 02 flow rates for four years, which has contributed to the collapse of the plume (based on monitoring data), the 2008 Scenario 02 flow rates (with 50 gpm less at 27EW0002) should be more than adequate to provide hydraulic capture of the current extent of the LF-1/CS-23 plumes at the base boundary. This new operating scenario for the LF-1/CS-23 remedial system will be referred to as 2012 Scenario 01.

2. Decrease in Mass Capture - EPA is concerned with an approximately 100-lb decrease in mass capture for the remedy. It is acknowledged in Attachment B (p. 16, sec. 3.0, last paragraph) that the total contaminant mass capture is about 100 pounds less than under the current pumping regime. This amounts to about 10% of the initial mass in the aquifer at the start of the simulation. Without individual mass extraction statistics by extraction wells, we observe two areas of concern, the northern lobe and the area in the vicinity of EW-7 and EW-8 in the

southern area of LF-1 extraction well fence. EPA requests information on mass capture by extraction well as was presented in the recent CS-21 optimization analysis.

It is also important to note that the reduction in flow rates proposed in Step 1 results in less mass capture and relies more heavily on natural attenuation which is a further departure from the preference for treatment goals established in the original ROD. Adding in plume extraction as part of the optimization would facilitate additional mass capture and would create an overall optimization that brings the remedy closer to the overall goals in the ROD.

Response: As noted in the response to EPA General Comment 1, AFCEE has withdrawn the system optimization recommendations based on the PEST-modeling evaluation and will reassess system performance at a later date with an updated plume shell that more closely represents current plume conditions. Mass capture estimates by extraction well will be provided in the next system performance evaluation.

It is noted, however, that assessment of model-predicted mass capture should be used with caution in optimization modeling evaluations. While mass capture is a metric that is easily generated by the groundwater model and should be assessed, it is more appropriate to evaluate contaminant mass capture in the context of whether a simulated operating scenario is effective in reducing contaminant concentrations below cleanup standards which is in alignment with the Remedial Action Objective of restoring the aquifer for beneficial uses (given the particular circumstances of the site). It is common to have contaminant mass present in the model domain at concentrations below cleanup standards; that mass does not need to be targeted for capture by the remedial system during optimization evaluations. As discussed in the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, the 100 lbs of PCE and TCE mass that is not captured by the system under the PEST-optimized condition is either lost to decay, exits the model at sub-MCL concentrations, or remains in the model at sub-MCL concentrations at the end of the simulation. It does not represent 100 lbs of contaminant mass at concentrations above the MCL that escapes capture by the remedial system.

The base case scenario (that results in 100 lbs more mass capture when compared to the PEST modeling results) is not a realistic operational scenario, and was created only as a frame of reference for comparison to the PEST optimized results. The base case scenario mass removal estimates are based on each extraction well operating at a constant flow rate (2008 Scenario 02) through their projected shut down date. The projected extraction well shut down dates were determined by viewing the transport animations and using professional judgement to estimate the date when no MCL exceedances remained in the vicinity of the extraction well. In reality, the remedial system would be operated more efficiently by progressively

reducing the flow rates at each extraction well as the plume concentrations and extent decreased over time. The PEST-optimized mass removal estimate is a more realistic estimate because PEST adapts flow rates to the changing nature and extent of the plume throughout the transport simulation in a manner that is impractical using manual optimization modeling techniques.

Therefore, AFCEE is not in agreement that "…the reduction in flow rates proposed in Step 1 results in less mass capture and relies more heavily on natural attenuation which is a further departure from the preference for treatment goals established in the original ROD" since the base case is not a realistic operating scenario and should not be treated as such in the evaluation. The estimated reduction in mass capture under PEST-flow rates is a consequence of improved system efficiency where the hydraulic capture zone is more appropriately configured for the current extent of the plume (i.e., COC concentrations above the MCL), and not related to a heavier reliance on natural attenuation as suggested. Prior to the next planned modeling evaluation at LF-1, AFCEE and the regulatory agencies should have an in-depth discussion regarding the ROD goals, appropriate metrics that should be evaluated to assess the modeled scenarios, and the long-term iterative nature of optimization including the simulate, implement, and verify performance monitoring approach used by AFCEE to date.

3. Adequacy of Monitoring Well Network - If the proposed rates are implemented, EPA is concerned with the adequacy of the monitoring well network. In a reduced total extraction rate scenario which is less "conservative," monitoring takes on increased importance.

   Attachment B (p. 15, sec. 3.0, last paragraph) acknowledges that the proposed pumping scenario allows some bypassing of the extraction fence near EW2 and EW6 at about 10 years and near EW3 and EW4 at about 30 years, although apparently similar to transport predictions under the current operating scenario.

   EPA requests a more detailed description of the differences in bypassing seen in the simulations for the current and proposed extraction regimens. In addition, further information is needed to support the claim that the current monitoring program is sufficient. The following information is requested: - On what time scale would mass bypassing the extraction wells be expected to arrive at "near-field," downgradient monitoring wells?

   Response: The lack of monitoring wells between the LF-1 extraction fence and Route 28 is due to the terrain in that area (which makes drilling a challenge) and is well documented (AFCEE 2001, 2002, 2003, 2004, 2005, 2007, 2009). AFCEE and the regulatory agencies participated in a site visit to that area in the late 1990's and agreed that the cost and environmental impacts associated with the construction

effort to remove trees and build roads so drill rigs could be mobilized to install monitoring wells in that area was not warranted.

AFCEE intends to maintain hydraulic capture of the LF-1 and CS-23 plumes at the base boundary through operation of the remedial system. Based on the hydraulic evaluation and model calibration work presented in the 2007 plume update technical memorandum (AFCEE 2009), confidence in the ability of the system to achieve this goal is good. Although the plume monitoring network in this area is sparse, the chemical monitoring data collected since 2007 (and prior) does support the conclusion that the plume is being hydraulically contained at the base boundary through the operation of the remedial system.

It is noted that AFCEE had recommended implementing the first set of PEST-optimized flow rates at LF-1/CS-23, and was not seeking approval from the regulatory agencies for the entire sequence of PEST flow rates. As with all AFCEE's modeling-based optimizations, remedial system performance would be monitored and verified following implementation. In this particular case, the optimization recommendation presented in the PEST project note included verifying the extent of hydraulic capture with the remedial system operating under the PEST optimized flow rates. Plume monitoring would also continue at the available monitoring wells.

AFCEE did not intend to implement the entire sequence of PEST-optimized flow rates through the system shut down date without additional monitoring and verification of hydraulic capture. The 'bypassing' of mass predicted by the model 30 years in the future is based on five different sets of future flow rate changes that have yet to be implemented and uses a version of the plume shell that over-states plume mass, extent, and concentration. The "bypassing" is not a realistic outcome based on the iterative nature of AFCEE's performance monitoring and optimization program.

Additionally, the 'bypassing' of mass beyond the extraction fence (i.e., to the west) does not necessarily indicate that the mass (at concentrations above the cleanup standards) is not being captured by the remedial system. The LF-1/CS-23 remedial system hydraulic capture zone extends some distance west of the extraction fence as shown on Figure 16 of the project note. Therefore, it is inaccurate to assume that the model-predicted migration of mass to the west of the extraction wells shown on the animations is not captured. As presented in the *Final LF-1/CS-23 2007 Plume Update Technical Memorandum* (AFCEE 2009), some contamination migrated beyond the extraction well fence before it was captured or attenuated, in a similar manner as shown in the PEST animations. If this remains a concern to the regulatory agencies, it can be addressed in the next optimization evaluation. As noted in response to EPA general comment 1, AFCEE has rescinded the PEST-

modeling evaluation and will reassess system performance and optimization at a later date.

There are three monitoring wells (27MW2137A and 27MW0037A,Z) located approximately 450 feet west of, and outside the model-predicted capture zone of 27EW0005. Concentrations of the LF-1 contaminants of concern (COCs) at those monitoring wells have been below their respective groundwater standards since 2008, indicating the 27EW0005 is hydraulically capturing the LF-1 northern lobe (in contrast to what was predicted from the PEST modeling using the 2007 version of the plume shell). Those monitoring results also indicate that the plume shell should be updated for future optimization evaluations.

There are three monitoring wells (27MW2119A, 27MW2120A, and 27MW2131A) that are located approximately 200 feet west of the LF-1 extraction fence and within the model-predicted extent of hydraulic capture of the remedial system (under 2008 Scenario 02 and PEST flow rates). The next closest monitoring wells to the west (27MW0038A,Z and 27MW0044) in the Southern Lobe, which are hydraulically downgradient of the extraction fence, are approximately 2,600 and 3,000 feet away, respectively, or approximately seven to eight years travel time. Concentrations above COC groundwater standards are not expected to migrate beyond the hydraulic capture zone of the LF-1/CS-23 remedial system or be detected at 27MW0038A,Z or 27MW0044 (once the COC concentrations in the uncaptured portion of the Southern Lobe have naturally attenuated to below clean up levels in that area).

- General Comment 3a: Is that time scale consistent with the current monitoring frequency?

  Response: Yes, 27MW0038A is sampled on an annual frequency and 27MW0037Z and 27MW0044 are sampled on a triennial frequency.

- General Comment 3b: Will any special steps be taken to characterize changes associated with the reduced pumping rates and to verify the model predictions to the extent possible (e.g., a synoptic round of water-level measurements in the vicinity of the extraction fence)?

  Response: As presented in the *LF-1/CS-23 2011 Triennial Data Presentation* (AFCEE 2012), a hydraulic capture zone assessment for the PEST-optimized flow rates was planned for 2013 to gather data to validate the model predictions. This approach of implementing optimization recommendations based on modeling predictions, followed up by verification though the collection of monitoring data (chemical and/or hydraulic) has been standard practice under AFCEE's optimization program at MMR. The monitoring data are then used to

adjust system operation, as necessary, to ensure system design and remedial performance objectives are being met.

- General Comment 3c: What wells currently in the SPEIM plan are immediately downgradient of the extraction fence?

  Response: See the response to EPA General Comments 3 and 3a.

- General Comment 3d: Are there additional existing wells that might be used to beef up this coverage? Do historical monitoring data at these wells support the conclusion that they are well placed to detect bypassing, should it occur?

  Response: There are no other existing monitoring wells available to monitor between the extraction fence and Route 28. There are additional monitoring wells located approximately 3,000 feet downgradient of the extraction fence that have been removed from the monitoring network due to lack of COC detections. See the response to EPA General Comment 3.

- General Comment 3e: Over what time scale do we expect to see changes in response to the change in extraction, and is the sampling frequency at downgradient MWs appropriate for that time scale?

  Response: No major changes were expected in contaminant concentrations at monitoring well locations downgradient (or west) of the extraction fence as a result of operating the system under the PEST-optimized flow rates since the evaluation concluded that hydraulic capture of the plume would be maintained. See response to EPA General Comment 3 and 3a for further information regarding well locations and sampling frequency.

- General Comment 3f: Is there value in synoptic water-level measurements in all available MWs near the EWs just prior to and just after changes are made to the pumping rates to verify the model predictions, and to provide additional data to support calibration of the flow model?

  Response: Yes, a hydraulic evaluation was planned to verify the model predictions; see the response to EPA General Comment 3b.

SPECIFIC COMMENTS:

1. Attachment B

   Page 41 (of 78 page PDF), Page 9 of 18, Section 2.5.1 Remediation Targets - EPA requests clarification on the selection of the targets listed here. In particular, why were the targets specified in Section 2.13.4 from Page 2-67 of the ROD dated Sept 2007 overlooked.

   "2.13.4 Expected Outcomes of the Selected Remedy
   Alternative 5 provides for protection of human health through implementation of LUCs. The groundwater model indicates that cleanup levels will be met by approximately 2027 downgradient of the extraction wells and by approximately 2045 for the entire plume, at which time the groundwater will be useable as a source of drinking water."

   Response: As noted in the response to EPA General Comment 1, AFCEE has rescinded the PEST-modeling evaluation primarily due to differences in the interpretation of the modeling results; AFCEE will reassess system performance at a later date following continued plume monitoring and using an updated plume shell. Remediation targets for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the work planning stage of the optimization evaluation.

2. Attachment B

   There is a discrepancy of 15 years since page 16 of 18 (Section 3.0) reports that "PCE and TCE concentrations are expected to decline below the MCL just after 2060." Such a discrepancy warrants further analysis including a more robust optimization which includes in plume extraction to bring the remedy closer to the timeframes established in the ROD.

   Response: The expected outcome of the selected remedy presented in the ROD based on modeling was that that cleanup levels will be met by approximately 2045. The approximate restoration timeframe date of 2045 was based on the TCE transport simulation from the Feasibility Study (FS) (AFCEE 2006). Results of the PCE transport simulation from the FS indicated that PCE concentration remained above the MCL in a low hydraulic conductivity unit beyond 2058. Remediation targets for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation. The apparent discrepancy in the transport simulation results presented in support of the ROD and the expected restoration timeframe presented in the ROD should be part of that discussion.

THE AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
RESPONSES TO MassDEP COMMENTS ON THE
LF-1/CS-23 2011 PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS PROJECT NOTE DATED JUNE 2012

GENERAL COMMENT:

1. In general, MassDEP is supportive of AFCEE's optimization efforts and recognizes that optimization of the IRP treatment systems is a key component for expediting aquifer restoration. MassDEP supports optimization when it is clear that optimization efforts do not result in loss of capture of groundwater contaminated with COC concentrations greater than MCLs that could otherwise be achieved, or does not result in prolonging the time to achieve aquifer restoration. As noted in EPA's e-mail, the LF-1/CS-23 2011 PEST Optimization Modeling Results Project Note indicates that the proposed LF-1/CS-23 optimization would result in an approximately 100-lb decrease in contaminant mass capture and does not reduce aquifer restoration times. As such, MassDEP is concerned that the proposed LF-1/CS-23 optimization represents a significant departure from the ROD by allowing additional contaminant mass to bypass LF-1/CS-23 extraction wells (especially in the northern lobe) as well as immediately downgradient of 27EW0007 and 27EW0008, and instead, relying on natural attenuation to achieve MCLs for contaminated groundwater that would otherwise be captured. It is not clear to MassDEP how the proposed LF-1/CS-23 optimization improves the remedial performance of the LF-1/CS-23 treatment system based upon the modeling results provided in the LF-1/CS-23 2011 PEST Optimization Modeling Results Project Note. MassDEP recognizes that the use of a 2007 plume shell introduces considerable uncertainty relative to current mass distribution within the LF-1/CS-23 plumes and may overestimate the amount of mass that is currently in these plumes. MassDEP agrees with EPA that the optimization of the LF-1/CS-23 treatment systems be postponed until Step 2 of the optimization process is completed.

   Response: AFCEE does not agree that the PEST-optimization evaluation was a significant departure from modeling-based remedial performance expectations at the time of remedy selection. Based on a comparison of the model simulations (2008 Scenario 02 versus PEST-optimized flow rates), there is no evidence to suggest significant contaminant mass would bypass the remedial system capture zone at concentrations above clean up standards in the PEST-optimized simulation. See the response to EPA General Comment 3.

THE AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
RESPONSES TO U.S. EPA COMMENTS ON THE
LF-1/CS-23 2011 ADDITIONAL INFRASTRUCTURE PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS
PROJECT NOTE DATED AUGUST 2012

COMMENTS IN EPA COVER LETTER DATED 07 SEPTMEBER 2012:

1. The ROD for LF-1 and CS-23 was finalized in September 2007 and states on page 2-64 that the performance objective was to provide groundwater containment of the LF-1 plume at a point approximately 800 feet west of the base boundary and further states that the achievement of this objective would be met by the following three metrics:

   - The LF-1 plume is expected to separate at a point approximately 800 feet down gradient of the base boundary by approximately 2013
   - The LF-1 groundwater between a point approximately 800 feet down gradient of the base boundary and Route 28 is expected to be below cleanup levels for plume COCs by approximately 2023
   - All LF-1 groundwater down gradient of the extraction wells is expected to be below cleanup levels for plume COCs by approximately 2027

   Furthermore, the ROD states on page 2-67 that the groundwater model indicates that cleanup levels will be met by approximately 2027 down gradient of the extraction wells and by approximately 2045 for the entire plume, at which time the groundwater will be useable as a source of drinking water.

   Please be advised that EPA does not approve any of the proposed optimizations from either Part 1 or Part 2 of the PEST Optimization Model because it has not been demonstrated that the optimizations achieve the performance and cleanup objectives stated in the ROD. EPA provided written comments on Part 1 of the PEST Optimization Model in an email dated July 31, 2012. EPA's comments on Part 2 of the PEST Optimization Model are attached. EPA requests a written response to our general and specific comments on Part 2 prior to our next meeting on September 27, 2012.

   Response: The modeling-based performance expectations presented in the LF-1 ROD should not be confused with the RAOs that are presented in the ROD. As discussed in detail in the *Final Landfill-1/Chemical Spill-23 2007 Plume Update Technical Memorandum* once the groundwater model was recalibrated with new data (as it was in 2007), the modeling-based performance expectations for the predicted cleanup of the plume downgradient of the base boundary (developed using the 2005 version of the LF-1/CS-23 groundwater model), were determined to be no longer appropriate indicators of whether the remedial performance objectives at LF-1 are being met (AFCEE 2009). AFCEE presented a more appropriate approach for assessing whether the performance objectives of the selected alternative are being met, which included: 1) assessment of the monitoring data collected under the SPEIM program; 2) model-based capture zone analyses of the ETI system; and 3) evaluation of the fate and transport animations using both the

full and "cut-off" plume shells. EPA reviewed and approved the *Final Landfill-1/Chemical Spill-23 2007 Plume Update Technical Memorandum* which presented this revised approach and the updated modeling-based performance expectations.

The ROD states on page 2-67 that the groundwater model indicates that cleanup levels will be met by approximately 2045 for the entire LF-1 plume, however most portions of the aquifer that currently contain the LF-1 plume will be available as a useable source of drinking water well before that time. Based on the results of fate and transport modeling the last portion of the aquifer to reach cleanup levels in the LF-1 plume is the area located directly downgradient of the source area landfill, in an area that is very unlikely to be approved for a drinking water supply well.

As noted in the response to EPA General Comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance at a later date. Remediation targets for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the work planning stage of the optimization evaluation.

GENERAL COMMENTS (ATTACHMENT TO 12 SEPTEMBER 2012 LETTER):

1. Based on our review of the PEST project notes Part 1 and 2, it appears that additional extraction wells are required to achieve ROD goals (restoration by 2045) and favorable due to lower estimated total lifecycle costs than the current operating scenario. However, EPA, at this time, does not select either the one or two additional extraction well scenarios because neither of these scenarios achieve the ROD clean year goals and modeling shows that the extraction fence does not achieve the containment metrics in the ROD. Please note that all future optimization proposals must start with a demonstration of how they will achieve the specific performance goals in the ROD. Furthermore, the objectives and all constraining parameters used in the optimization should be clearly specified in the project notes that support these evaluations. It appears from our evaluation of the model results, the PEST Optimization was constrained to reducing operational costs by reducing pumping rates with the performance and cleanup objectives from the ROD not receiving equal attention.

   Response: As noted in the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance at a later date. Remediation targets for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation.

2. Further refinement of additional extraction well strategies are warranted due to potential costs savings and improved mass capture as noted below. At a minimum, these scenarios should keep extraction rates along the fenceline sufficient to maintain capture rather than large step downs in extraction rates which appear to allow plume to migrate above MCLs past the fence line.

   Table 2 in the project note presents that significant improvements in cumulative mass extracted, cleanup time, and total cost are achieved by the two-additional-well scenario. Because these parameters all improve in going from one additional EW to two additional EWs, it seems rather compelling to extend these considerations to three and more additional EWs to determine whether or not further gains on the remedial goals can be achieved at even lower cost. The transport animations certainly suggest that, at the very least, there may be some benefit from a third in-plume extraction well between AIEW2A and AIEW2B in order to shorten further the travel times for groundwater within the plume core to extraction points. Given that the benefits go up and the cost goes down in stepping from one new EW to two new EWs, while the total cost jumps dramatically up for 11 new EWs, there is a suggestion that there may be an optimum somewhere between these scenarios, with increased benefit and decreased cost.

   In addition, it is noted that it may be worthwhile to perform an evaluation allowing for the screen at AIEW2A to extend to greater depth in order to capture contamination deeper in the aquifer that appears to underflow the extraction well in the current evaluation of the two-additional well scenario. The animations for the two-new-well scenario show that AIEW2A might benefit from a longer (extending to greater depth) screen, as contamination eventually seems to underflow this well, and then has the long travel time to the downgradient fence.

   Response: As noted in the response to EPA general comment 3 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE intends to maintain hydraulic capture of the LF-1 and CS-23 plumes at the base boundary through operation of the remedial system. The 'bypassing' of mass predicted by the model 30 years in the future is based on five different sets of future flow rate changes that have yet to be implemented and uses a version of the plume shell that over-states plume mass, extent, and concentration. The "bypassing" is not a realistic outcome based on the iterative nature of AFCEE's performance monitoring and optimization program.

   As noted in the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE will reassess system performance at a later date using an updated plume shell that better represents the current nature and extent of the LF-1 plume. Remediation targets for

this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation. If future modeling efforts indicate that additional extraction wells are needed to meet remediation targets, the benefits of installing new infrastructure will be assessed at that time.

3. The Draft Project Note does not describe whatever steps were taken to verify that the transport simulations are yielding reliable results. For example, were any tests runs done to determine if mesh refinement and/or time-step reduction affect results significantly? Are any simple tests for mass balance performed (e.g., total mass in the initial distribution must equal the sum of total mass remaining in the domain plus cumulative mass that has left the domain by advection and dispersion plus cumulative mass destroyed by degradation at any given time)? Is it verified that the steady-state flow fields needed for each pumping configuration are fully converged and satisfy similar simple mass-balance checks (i.e., water in equal to water out)?

   Please discuss what has been done to verify that the solutions obtained are converged to some tolerance, that they are stable, and that they "back-check" reasonably well against some simple measures of overall performance (e.g., pick a time in the model run, and ask whether all the mass remaining in the model domain plus all the mass that has been removed by extraction wells plus all the mass that has left the domain by advection and dispersion plus all the mass that has been lost to degradation is equal to the mass initially placed in the model domain).

   Response: Mesh refinement and time-step reduction tests were not performed during this evaluation. Time-step reduction tests would be simple to perform. Mesh refinement testing would require a substantial effort to perform.

   MT3DMS mass balance output files were examined for each of the final runs to verify that the model mass-balance was acceptable. The mass balance discrepancy calculated internally by MT3DMS never exceeded 1 percent, and was typically less than 0.5 percent. The mass balance reported by MODFLOW was typically 0.00 percent. MODFLOW runs converged with a head closure criterion of 0.001 foot. These measures of mass balance and convergence were not examined for each of the thousands of individual model runs performed as part of each PEST run, but were checked for the final runs.

   MT3DMS runs were automatically checked during PEST runs to verify convergence. Runs would fail to converge on a rare occasion, but convergence could be restored with a small modification to the time-step multiplier. If an individual run with a time-step multiplier of 1.2 failed, it was automatically restarted from the beginning with a multiplier of 1.19. We have observed similar

behavior by MT3DMS on other projects during PEST runs, and deployed the same method to successfully correct the problem.

4. Total Lifecycle Cost Estimates – In addition to the refinement of additional extraction well scenarios, total lifecycle cost estimates should refined to improve evaluation of each scenario. Savings on long-term monitoring costs due to improvements in the cleanup timeframe and expenses related to wellfield design and major infrastructure costs should be incorporated in future analysis.

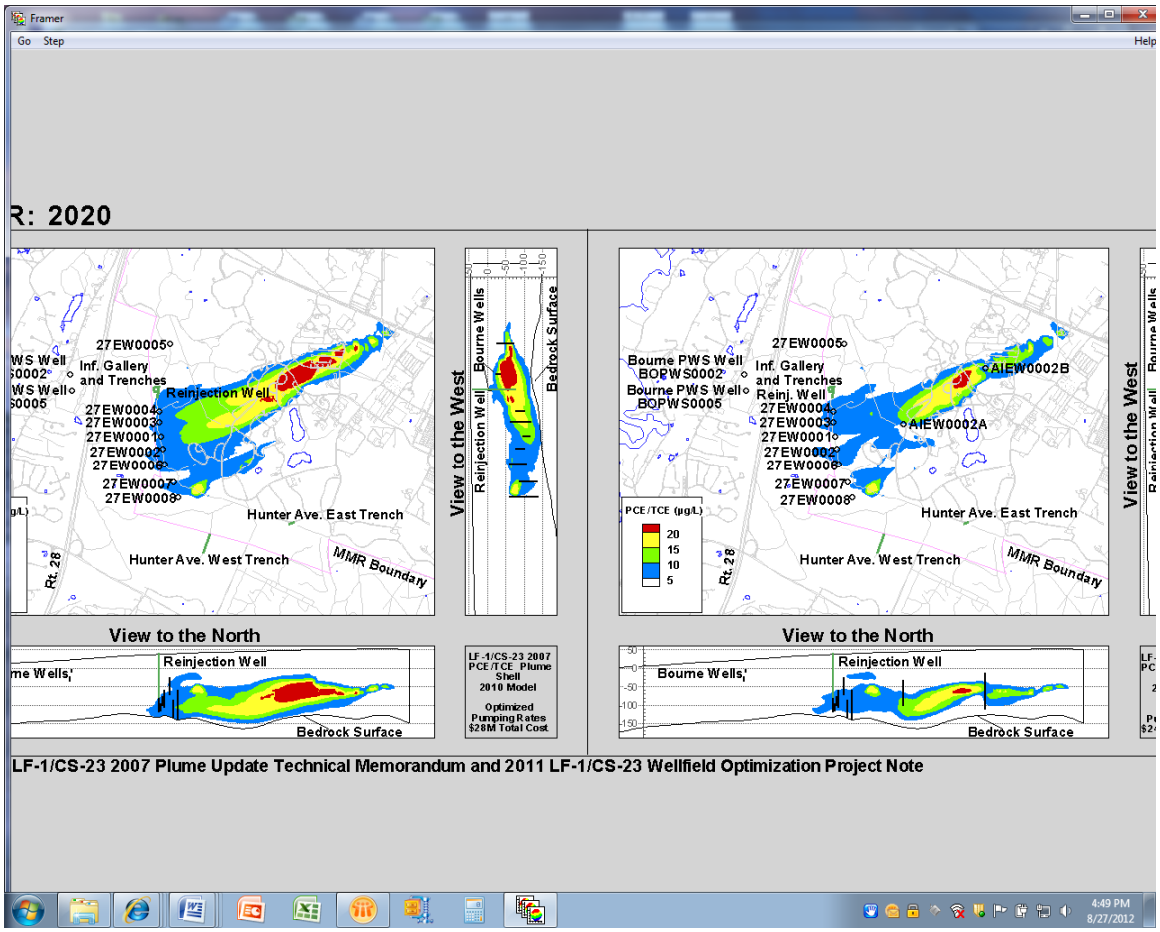
   Response: As discussed in Section 2.5.2 of the June 2012 *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, sampling costs were included as part of the optimization target to lower the total lifecycle cost for this optimization evaluation. Sampling and related evaluation costs were reduced in relation to plume volume throughout transport simulation.

   As discussed in Section 2.1.4 of the August 2012 *LF-1/CS-23 2011 Additional Infrastructure PEST Optimization Model Setup, Procedures and Results* Project Note, estimated capital costs for additional infrastructure components and construction were included in the cost assessment.

5. Updating the Evaluation Using 2011 Plume Data – At the Technical Update Meeting held on Tuesday, 28 August 2012, there was general agreement that decision making would be benefited by updating the plume shell with the complete round from 2011.

   EPA requests a schedule for the update of the plume shell and a meeting to discuss the approach for evaluation of optimization for LF-1/CS-23 remedial systems to address EPA and MassDEP's comments. The evaluation approach for the new plume shell should be provided in a project note identifying scenarios to be evaluated addressing the following (but not limited to): process for selecting clean year (i.e., need also to resolve use of TCE/PCE versus only TCE plume shells); additional extraction well scenarios (one, two or more); key constraining factors (i.e., hydraulic capture at fenceline; and verification checks.

   The performance numbers strongly suggest that a few more scenarios should be investigated. From the optimized 2011 to the one-new-well to the two-new-well scenarios, the cleanup generally improves with the cost going down. It seems to beg for evaluations of three new wells, four, etc., to try to identify the point at which the cost starts to go up again (as in the 11-new-well scenario already run). In addition, constraining the modeling to maintain cut-off at the fenceline should be pursued as the following screenshot shows contamination migrating past the fenceline. [Comment: The two additional well scenario at year 2020 shows clearly that capture is not achieved at fenceline.]



Response: As noted in the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance and optimization opportunities in 2013; an updated plume shell which will be used in this evaluation will be based on data collected during the first half of 2013. Remediation targets for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation. If future modeling efforts indicate that additional extraction wells are needed to meet remediation targets, the benefits of installing additional infrastructure will be assessed at that time.

6. 27EW0002 – Provide a schedule for returning 27EW0002 back to its 2008 Scenario 02 Flow Rate of 300 gpm. This well plays a critical role in maintaining containment at the base boundary.

Response: See the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note. AFCEE believes returning the flow rates at all LF-1/CS-23 wells to 2008 Scenario 02 flow rates with the exception of 27EW0002 where flow will be returned to 250 gpm (rather than 300 gpm) will be sufficient to maintain hydraulic capture of the LF-1/CS-23 plumes given their current extent.

7. Five Year Review – EPA notes that the current five year review period ends on October 31, 2012 and requests that the five-year review analysis for LF-1/CS-23 include a full analysis of the cleanup of main body and portions downgradient of the extraction well fenceline against ROD goals. This analysis should include evaluation of chemical monitoring data as well as hydraulic capture assessment to confirm cut-off of plume at base boundary. Evaluation of the chemical monitoring data should evaluate capture and assess the restoration of the different portions of the LF-1 plume.

   Response: Consistent with Five-Year Review guidance, AFCEE will complete a protectiveness assessment of the selected remedy, a component of which is to determine whether the remedy is functioning as intended by the decision document. Existing monitoring and modeling information will be used to make that determination.

SPECIFIC COMMENTS:

1. Table 2 - Please provide an explanation for the differences between the "full" and "cutoff" plume shells referenced in the table, and the corresponding differences in the total initial contaminant mass (1093 lbs in the simulations performed to support the ROD; 897 lbs in the simulations of 2008 Scenario 02; 994 lbs in the simulations of 2011 Scenario 01 and the Additional Infrastructure simulations).

   Response: As discussed in Section 2.3 of the June 2012 *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, a truncated (or "cut-off") plume shell was used in the optimization evaluation in which all concentrations west of the extraction well fence were set to zero at the start of the simulation. Cut-off plume simulations for LF-1/CS-23 are helpful in distinguishing between contamination that is beyond the MMR boundary at the start of the simulation and that which could migrate past the extraction wells in the future under the PEST-optimized operating conditions. This allowed for verification that the remedial design objective of plume containment at the base boundary was being met, at least based on modeling simulations. The "full" plume shells include the downgradient LF-1 lobes (i.e., off-base).

The LF-1 TCE and PCE plume shells created for the ROD were based on a 2004 data set (AFCEE 2007), while the LF-1 TCE and PCE plume shells created for the *Final LF-1/CS-23 2007 Plume Update Technical Memorandum* (AFCEE 2009) and used in the PEST modeling were based on data collected in 2007. The difference in initial contaminant mass (dissolved and adsorbed, above the MCL) between those two plume shells is a result of two different data sets.

The full 2007 version of the plume shell (897 lbs in Table 2) is the total (dissolved and adsorbed) PCE and TCE mass at concentrations above the MCL for the LF-1 plume shells, and did not include the CS-23 plume. Adding the approximate total TCE mass (dissolved and adsorbed) at concentrations above the MCL of 70 lbs in the groundwater model for CS-23 (not provided in Table 2) to the 897 lbs of PCE and TCE for LF-1 provides a total of 967 lbs of contaminant mass at concentrations above the MCL for the 2007 LF-1/CS-23 PCE and TCE plume shells.

The 'cutoff' 2007 version of the plume shell (994 lbs in Table 2) represents the total (dissolved and adsorbed) PCE and TCE mass above and below the MCL for LF-1 and CS-23 based on the 2007 dataset. The total (dissolved and adsorbed) PCE and TCE mass at concentrations above the MCL in the 2007 'cut-off' plume shells for LF-1 and CS-23 is 767 lbs.

Remediation targets and the development of new plume shells for the future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation.

2. Figure 3 - The optimized pumping for the 1-new-well scenario is quite different from that for 2 new wells. In particular, extraction targeting the central hotspot of the plume is far more aggressive in the 2-well scenario for some reason. In the 1-well scenario, the well pumps at 611 gpm for the first time period, while the two wells in the other scenario pump at 1059 + 463 = 1522 gpm. In the second time interval, the single new well runs at 169 gpm, while the two wells run at 1062 + 177 = 1239 gpm, quite a big difference. Please provide an explanation for this as it does not appear that the one well scenario was conducted to accelerate cleanup.

   This may well be what the PEST runs arrive at, but it is a little unexpected to have the EW for the one-new-well scenario running at such low rates (although the third time interval sees this well increase to 307 gpm). This may be one reason that there is no gain in system-shutdown date and clean year for one new well over the optimized schedule for the existing system (2011 Scenario 01). And, the much greater extraction rate coming out of the 2-new-well scenario leads to significantly earlier shutdown and clean dates (see Table 2). Please explain this difference and

how future modeling efforts will be constrained to truly compare the benefits of one or two additional extraction wells.

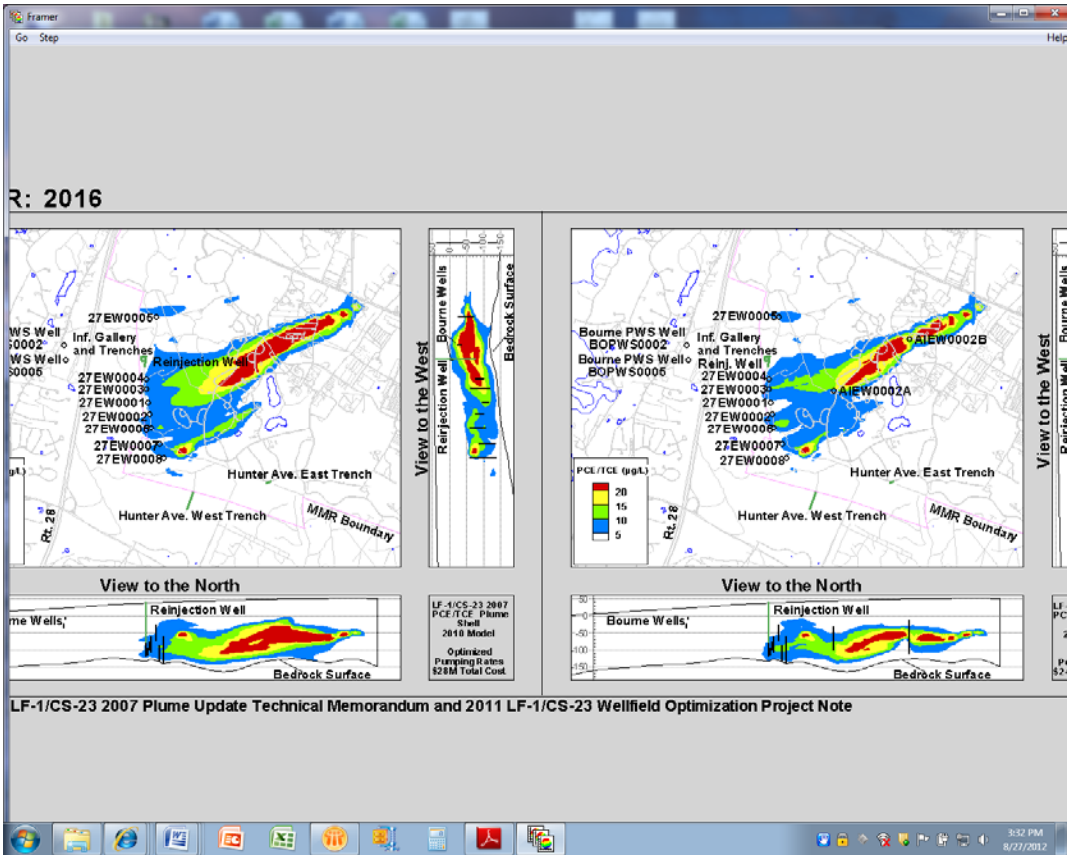
Response: Section 1.0 of the Project Note states: "The goal of the optimization assessment for one- and two-additional-well scenarios was to identify an operating strategy that would minimize the total lifecycle costs of the treatment system while meeting the remedial design objective of plume containment at the base boundary."

Neither the one-well nor the two-well scenario was conducted to accelerate cleanup. The objective function was not penalized for serendipitous cleanup acceleration. Our interpretation of the accelerated cleanup in the two-well scenario is that with the two additional wells, it appears somewhat difficult to maintain the original cleanup timeframe. In other words, it appeared that we would need to intentionally instruct PEST to degrade the performance of the system in order to preserve the original cleanup timeframe.

It is possible that PEST became "trapped" in a local minimum of the solution space where the two-well scenario simulates better performance (including accelerated cleanup) for lower cost than what is possible with existing infrastructure, but we did not perceive this as a shortcoming of the method that required correction. Other methods of searching the solution space (e.g., the Covariance Matrix Adaptation Evolution Strategy) could be deployed to investigate whether there are other solutions not accessible to the gradient-based search. However, as discussed in the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance at a later date.

3. Figure 4 - It's curious here that the one-new-well scenario comes out with a lower cost (capital plus operating) than does the optimized 2011 Scenario 01 throughout the modeled history, even though the proposed additional-well scenario entails added infrastructure and higher overall pumping for the first three simulation time intervals (5 years each, I believe). Please explain how this can happen.

   Later in the history (fourth time interval and beyond), the new-well scenario entails lower total extraction than does the optimized 2011 Scenario 01, so costs in the later stages of operation may well come down. The two-new-well scenario seems to do what would be expected; that is, the cost is higher than the optimized 2011 scenario or the one-new-well scenario for the first 30 years or so (due to the added capital costs and the greater overall extraction rate), but the cumulative cost falls below the less aggressive scenarios after about 30 years because the overall cleanup is achieved more quickly, and the system can be dialed down.



Response: The EPA is correct that the one-new-well scenario should have higher initial costs. While researching the response to this comment, we discovered that the wrong data were used to create the graph for that scenario, and the discussion in the Project Note was based on the erroneous graph. A corrected Figure 4 is attached. The corrected Figure 4 shows higher costs for the one-new-well scenario when compared to the PEST-optimized scenario for approximately 30 years, after which it performs similarly to the two-new-well scenario. The corrected total lifecycle cost of the one-new-well scenario is approximately $24M, not $27M.

4. Please explain why EW06 goes from 654 gpm to 0 gpm at Step 2 despite the fact that there appears to be mass ("green") still upgradient.

Response: The objective function used by PEST only reacts to the targets it is given, and only reacts to those targets in a mathematical sense. In other words, PEST assigned that combination of flow rates because it reduced the objective function more than some other combination was able to. It appears that PEST chose to allow 27EW0002 to control that portion of the plume, probably because that resulted in a lower cost of operation than maintaining a higher flow rate at 27EW0006.

Future PEST runs could include additional targets, but the targets must be expressed mathematically. In this particular case, "increase pumping at wells with concentrations greater than 5 µg/L within 500 feet in an arc +/- 30 degrees of the upgradient direction" would be a start at creating a target, but would require some further refinement.

5. Please explain what has a greater effect on the analysis: different time steps (1, 3, or 5) or separating the TCE & PCE plume shells.

Response: As noted in the response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance at a later date. Remediation targets, time steps and the development of plume shells for this future optimization evaluation will be discussed with the regulatory agencies in the context of the RAOs and ROD goals during the planning stage of the optimization evaluation.

THE AIR FORCE CENTER FOR ENGINEERING AND THE ENVIRONMENT
RESPONSES TO MassDEP COMMENTS ON THE
LF-1/CS-23 2011 ADDITIONAL INFRASTRUCTURE PEST OPTIMIZATION MODEL SETUP, PROCEDURES, AND RESULTS
PROJECT NOTE DATED AUGUST 2012

GENERAL COMMENT:

1. MassDEP reiterates its position stated at the last IRP Tech meeting that the LF-1 optimization scenarios in the PEST Phase 2 PN should be reevaluated with a plume shell developed on the most current data set available (rather than the 2007 LF-1 plume shell). The use of a plume shell based upon the most current COC distribution within the LF-1 plume will enable a more accurate assessment of potential optimization opportunities and assist in the appropriate placement of any additional extraction well(s) within upgradient areas of the plume. MassDEP will reserve any further comment on LF-1 optimization until the new plume shell is developed and an assessment of optimization opportunities is evaluated with the new plume shell.

   Response: Comment noted. See response to EPA general comment 1 of the *LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* Project Note, AFCEE has rescinded the PEST-modeling evaluation and will reassess system performance and optimization opportunities in 2013.

REFERENCES:

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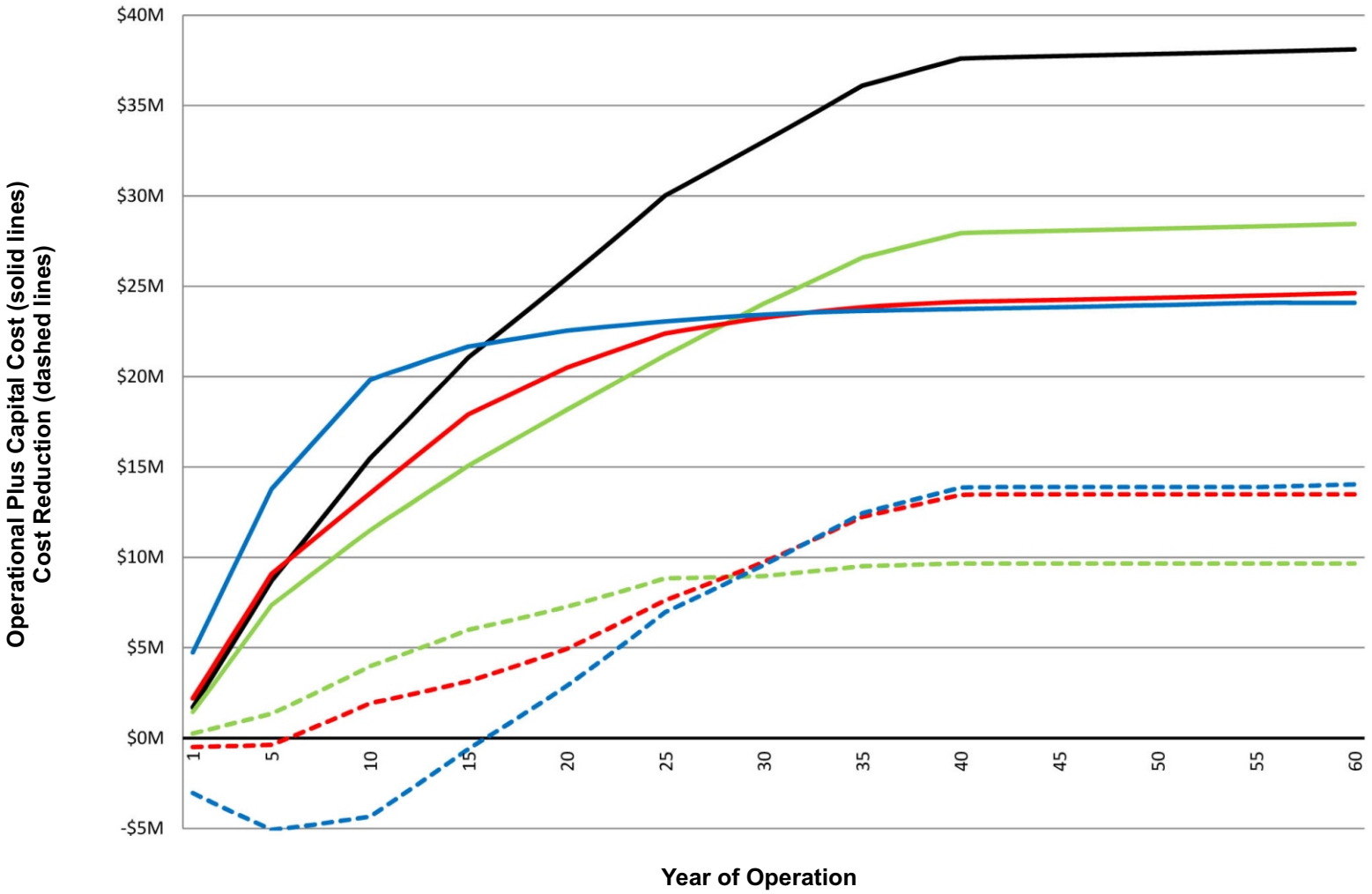
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Legend

- Pre-PEST Operation (2008 Scenario 02)
- PEST-Optimized Operation (2011 Scenario 01)
- One Additional Well
- Two Additional Wells
- Cost Reduction, PEST-Optimized Operation
- Cost Reduction, One Additional Well
- Cost Reduction, Two Additional Wells

FIGURE 4

ESTIMATED COST OF OPTIMIZED OPERATION VS. ADDITIONAL INFRASTRUCTURE OPERATION

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2011 Additional Infrastructure and Accelerated Cleanup PEST Modeling Evaluation Project Note

CH2MHILL

ATTACHMENT E

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109

December 27, 2012

Jonathan S. Davis
Remediation Program Manager
HQ AFCEE/MMR
322 East Inner Road
Otis ANG Base, MA 02542-5028

Re: Responses to Comments for *Draft LF-1/CS-23 2011 Infrastructure Pest Optimization Model Setup, Procedures and Results Project Note & Draft LF-1/CS-23 2011 Additional Infrastructure Pest Optimization Model Setup, Procedure and Results Project Notes*

Dear Mr. Davis:

EPA has reviewed the responses to comments letter on the *Draft LF-1/CS-23 2011 Infrastructure Pest Optimization Model Setup, Procedures and Results Project Note (June 2012) & Draft LF-1/CS-23 2011 Additional Infrastructure Pest Optimization Model Setup, Procedure and Results Project Note (August 2012)* dated 9 November 2012. We find the responses to be acceptable and agree with operating the LF-1/CS-23 remedial system to the 2008 Scenario 02 condition with the exception of 27EW0002 which will be operated at 250 gpm (50 gpm less than the 2008 Scenario 02 flow rate). If you have any questions, please do not hesitate to call me at (617) 918-1392.

Sincerely,

Robert Lim, Remedial Project Manager
Federal Facilities Superfund Section

cc: Rose Forbes/AFCEE
Lynne Jennings/EPA
Len Pinaud/MassDEP

ATTACHMENT F

-----Original Message-----
From: Jacobs, Elliot (DEP) [mailto:elliot.jacobs@state.ma.us]
Sent: Monday, January 07, 2013 10:07 AM
To: FORBES, ROSE H GS-13 USAF AETC EXE
Cc: Pinaud, Leonard (DEP)
Subject: RE: PEST Phase 2 modeling PN

Hi Rose, MassDEP does not have any further comments on the LF-1 PEST Phase 2 modeling PN.

Elliott Jacobs, MassDEP - BWSC SERO
508-946-2786
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-----Original Message-----
From: FORBES, ROSE H GS-13 USAF AETC EXE [mailto:rose.forbes@us.af.mil]
Sent: Monday, January 07, 2013 6:10 AM
To: Jacobs, Elliot (DEP)
Cc: Pinaud, Leonard (DEP)
Subject: RE: PEST Phase 2 modeling PN

Hi Elliott - We received EPA's approval on the LF-1 PEST RCL (see attached). We would like to finalize the project notes but I wanted to check in with you to see if you planned on providing any additional correspondence over and above the following email that you sent me in September.

Please advise.

Thanks

Rose

Rose Forbes, P.E., GS-13
322 East Inner Road
Otis ANG Base MA 02542
Office: 508-968-4670 x 5613
Fax: 508-968-4476
Cell: 210-324-9495

-----Original Message-----
From: FORBES, ROSE H GS-13 USAF AETC EXE
Sent: Tuesday, September 18, 2012 4:02 PM
To: 'Jacobs, Elliot (DEP)'
Cc: Pinaud, Leonard (DEP)
Subject: RE: PEST Phase 2 modeling PN

Thanks Elliott

-----Original Message-----
From: Jacobs, Elliot (DEP) [mailto:elliot.jacobs@state.ma.us]
Sent: Tuesday, September 18, 2012 1:55 PM
To: FORBES, ROSE H GS-13 USAF AETC EXE
Cc: Pinaud, Leonard (DEP)
Subject: RE: PEST Phase 2 modeling PN

Hi Rose, MassDEP reiterates its position stated at the last IRP Tech meeting that the LF-1 optimization scenarios in the PEST Phase 2 PN should be reevaluated with a plume shell developed on the most current data set available (rather than the 2007 LF-1 plume shell). The use of a plume shell based upon the most current COC distribution within the LF-1 plume will enable a more accurate assessment of potential optimization opportunities and assist in the appropriate placement of any additional extraction well(s) within upgradient areas of the plume. MassDEP will reserve any further comment on LF-1 optimization until the new plume shell is developed and an assessment of optimization opportunities is evaluated with the new plume shell.

Elliott Jacobs, MassDEP - BWSC SERO
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-----Original Message-----
From: FORBES, ROSE H GS-13 USAF AETC EXE [mailto:rose.forbes@us.af.mil]
Sent: Tuesday, September 18, 2012 12:28 PM
To: Jacobs, Elliot (DEP)
Subject: PEST Phase 2 modeling PN

Hi Elliott - will you be providing any comments on the PEST phase 2 modeling project note?

Rose

Rose Forbes, P.E., GS-13
322 East Inner Road
Otis ANG Base MA 02542
Office: 508-968-4670 x 5613
Fax: 508-968-4476 Cell: 210-324-9495

CH2MHILL	PROJECT NOTE	TASK ORDER 0300
		PROJECT NO. 420005
AFCEE **SPEIM/LTM/O&M** **Otis ANG Base, Massachusetts** **4P08 FA8903-08-D-8769-0300**	**DOCUMENT CONTROL NUMBER: 420005-SPEIM-LF1/CS23-PRJNOT-006** **CDRL A001k**	PAGE 1 OF 8

Confirmation Of:		Date Held:	Not Applicable
☐	Meeting	Location:	Not Applicable
☐	Change Notice	Date Issued:	03 July 2012
☒	General Project Note	Recorded By:	Jason Dalrymple
Subject:	**LF-1/CS-23 2012 WETLAND AND SURFACE WATER ECOLOGICAL EVALUATION**	Issued By:	Patricia de Groot
EPA # 16-OU 01D-LF-1 GW PLUME; 25–CS-23			CH2M HILL PROGRAM MANAGER

ITEM	REMARKS
1.0	**INTRODUCTION**
1.1	**Purpose and Objective**

The original Landfill-1 (LF-1) remedial system consisted of five extraction wells (27EW0001, 27EW0002, 27EW0003, 27EW0004, and 27EW0005) that began operation on 26 August 1999. The LF-1 treatment system was expanded in 2006 to include one additional southern extraction well, 27EW0006 (AFCEE 2009a). The new LF-1 extraction well was designed and constructed concurrently with the two new extraction wells (27EW0007 and 27EW0008) for the Chemical Spill-23 (CS-23) treatment system. Modeling simulations conducted to support the CS-23 wellfield design (AFCEE 2006a) indicated that the preferred system design and operating scenario (Run 18) could potentially result in unacceptable hydraulic effects on five nearby ecosystems [Spectacle Wetland (Vernal Pool No. 4983), Vernal Pool No. 651, Spit Pond, Osborn Pond, and Edmunds Pond] (Figure 1). As a result, the Air Force Center for Engineering and the Environment (AFCEE) submitted the *Scope of Work for the Ecological Evaluation of Wetlands and Surface Waters Potentially Affected by the LF-1 and CS-23 Groundwater Treatment Systems* (AFCEE 2006b) in the spring of 2006 and began several hydrologic monitoring and ecological survey tasks at the ecosystems of concern to provide the data necessary to conduct an ecological and hydrological evaluation.

The 2007 LF-1/CS-23 Wetland and Surface Water Ecological Evaluation (AFCEE 2009a) indicated that the small amount of drawdown (less than 0.4 feet) observed in 2006 and 2007 at Spit Pond, Osborn Pond, and Edmunds Pond was consistent with modeling predictions. No significant change in the vegetative composition or wildlife had occurred, or was expected to occur at those three ponds due to operation of the expanded LF-1/CS-23 groundwater treatment system. Therefore, monitoring at Edmunds, Osborn, and Spit ponds was discontinued in mid-2008.

Results from all previous LF-1/CS-23 Wetland and Surface Water Ecological Evaluations (AFCEE 2009a, 2009b, 2010, 2011a, 2011b) indicated that while water levels have decreased by up to 1.3 feet at Spectacle Wetland and Vernal Pool No. 651 (possibly due to the operation of the treatment system), the ecosystem, vegetation and wildlife habitat did not change significantly between 2006 and 2011.

Distribution: AFCEE: Jon Davis, Rose Forbes, Bob Power; EPA: Bob Lim; MassDEP: Len Pinaud, Elliott Jacobs; Falmouth Cons. Com.: Mark Kasprzyk; Bourne Cons. Com.: Brendan Mullaney; MDFW: Steve Hurley; CH2M: Doc Ctl.

ITEM	REMARKS
	The objective of this LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation is to continue to assess whether the operation of the expanded LF-1/CS-23 treatment system has resulted in changes to the hydrologic and/or the ecological health of the ecosystems at Spectacle Wetland and Vernal Pool No. 651. Further background and historical information regarding the LF-1/CS-23 wetland and surface water ecological program is provided in the previous ecological evaluation documents (AFCEE 2009a, 2009b, 2010, 2011a, 2011b). The following sections provide the 2012 monitoring and survey results, conclusions, and recommendations for continued monitoring and data evaluation.
2.0	**ECOLOGICAL INVESTIGATION** AFCEE started collecting water level measurements at the ecosystems of concern in November 2005 (prior to startup of the expanded LF-1/CS-23 treatment system) and conducted vegetation and wildlife surveys annually between 2006 and 2012. The following provides a summary of the data collected in 2012 as it compares to the data previously collected between 2006 and 2011.
2.1	**Vegetation Surveys** Vegetation surveys were conducted on 02 April 2012 at Spectacle Wetland, Vernal Pool No. 651 and a reference location, Vernal Pool No. 5 (**Figure 1**). The assessment of vegetation included measures of relative abundance, relative cover, dominant species, wetland indicator status, presence and approximate extent of invasive species and soil hydrology within a 15- by 30-foot transect at a representative location along the bank. These measures are the characteristics of the plant assemblage which could be altered if groundwater levels were to change significantly in magnitude or duration, or during critical periods. In areas of vegetation tolerant of saturated soils, a lowering of the groundwater could reduce the amount of cover until upland species became abundant. Similarly, in areas where groundwater is near or at the surface, wetland plant species would dominate but they would decrease in relative abundance as groundwater levels declined. Also, if wetland species could not survive, there is the potential for invasive species to dominate an area before native upland species become established. It should be noted that variable size plots, as described in the *Scope of Work for the Ecological Evaluation of Wetlands and Surface Waters Potentially Affected by the LF-1 and CS-23 Groundwater Treatment Systems* (AFCEE 2006b), were not conducted. Based on closer examination and assessment in the field, it was possible to survey the entire 15- by 30-foot transect. Vegetation survey data sheets associated with these surveys are provided in **Attachment 1**. No significant change in the vegetative composition of these plots was observed between 2006 and 2012. While it is possible that some vegetation may have been missed in the April 2012 survey, particularly some annual plants that had not yet sprouted or matured, the survey was conducted in the spring to record invertebrate and amphibian breeding activity, which is more sensitive to and reflective of fluctuating water levels.

ITEM	REMARKS
	The uplands along the water's edge of these aquatic systems are generally dominated by pitch pine (*Pinus rigida*) and black and white oak (*Quercus sp.*). Understories are dominated by lowbush blueberry (*Vaccinium angustifolium*), highbush blueberry (*Vaccinium coyrmbosum)* and sheep laurel (*Kalmia angustifolia*). No invasive species (such as Japanese knot weed, phragmities, purple loose strife, honeysuckle, bittersweet, autumn olive, and scotch broom) were observed at any of the ecosystems during the survey on 02 April 2012 or during previous surveys. The vegetation observed outside the transect areas was no different than that within the transect areas at each site (i.e., the dominant species and vegetative communities were similar). Additionally, a meander survey was conducted around each of the vernal pools and wetlands to document other species that may be present at each location but not represented in the 15- by 30-foot sample plot. Vegetation species identified at each location are discussed in Section 2.2 below. Vegetation documented from meander surveys at Vernal Pool 651 and Spectacle Wetland included sheep-laurel (*Kalmia angustifolia*), black oak (*Quercus velutina*), white oak (*Quercus alba*), teaberry (*Gaultheria procumbens*), lowbush blueberry (*Vaccinium angustifolium*), pitch pine (*Pinus rigida*), highbush blueberry (*Vaccinium corymbosum*), mountain laurel (*Kalmia latifolia*), bracken fern (*Pteridium aquilinum*) and common greenbrier (*Smilax rotundifolia*). Eastern white pine (*Pinus strobus*) saplings and ground pine (*Lycopodium obscurum*), were also found during the meander survey at Spectacle Wetland and Vernal Pool 5. A meander survey at Vernal Pool 5 also revealed nannyberry (*Viburnum lentago*) in addition to all the species found at Vernal Pool 651 and Spectacle Wetland except for bracken fern or common greenbrier.
2.2	**Wildlife Surveys and Vernal Pool Assessment** Visual and audible surveys of each of the three ecosystems were conducted during a field survey visit on 02 April 2012 (**Attachment 1**). Sampling equipment was sterilized between, before and after vernal pool assessment to prevent possible transmission of invasive species or disease vectors. No threatened or endangered species were observed during the monitoring events. Avian species observed included typical upland pitch pine/oak forest species such as American crow, blue jay, and black-capped chickadee. An osprey, red shouldered hawk, ruffed grouse and a pair of mallards were noted at Spectacle Wetland. Spotted salamander egg masses were observed in all three vernal pool locations in the 2012 survey. Wood frog egg masses were observed in Vernal Pool No. 651 and not at the other two locations in 2012. The presence of these egg masses is consistent with previous survey results, and is what is expected to be found at vernal pools. Representative photographs taken during the 2012 survey of Spectacle Wetland, Vernal Pool No. 651, and Vernal Pool No. 5 (including photo documentation of egg masses found at these locations) are provided in **Attachment 2**.

ITEM	REMARKS
	Mammals commonly found in undeveloped pitch pine-mixed oak forests include the following, listed in order of abundance: coyote (*Canis latrans*), white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), ground hog (*Marmota monax*), raccoon (*Procyon lotor*), eastern cottontail (*Sylvilagus floridanus*), southern flying squirrel (*Glaucomys volans*), meadow vole (*Microtus pennsylvanicus*), white footed mouse (*Peromyscus leucopus*), southern red-backed vole (*Clethrionomys gapperi*), shorttailed shrew (*Blarina brevicauda*), and eastern chipmunk (*Tamias striatus*) (ARNG 2009). No mammals were observed during the 2012 surveys, although deer tracks were observed along the shore of Spectacle Wetland and Vernal Pool No. 651. These ecosystems may be important habitat resources for the mammals mentioned above even though they do not rely on them for breeding and survival. If the animals (primarily amphibians) that do depend on the resources were to be significantly adversely affected, the mammals could be affected also. Additional observations or evidence of wildlife at the ecosystems include those by field sampling personnel during the collection of water level data throughout the year. The field samplers directly observed red tail hawks, a ruffed grouse, a rock dove, chickadees and other song birds, dragon and damsel flies, deer ticks, and frogs at the ecosystems in 2011 and 2012. Additionally, the field samplers observed footprints from a variety of animals in snow and/or mud near the ecosystems in the winter months. The footprints were hypothesized to be from deer, coyotes or dogs, small mammals such as mice or chipmunks, and various types of birds.
3.0	**HYDROLOGIC MONITORING** Water levels were monitored biweekly at staff gauges and piezometers at Spectacle Wetland and Vernal Pool No. 651 and at two reference ecosystems and a monitoring well (Rod and Gun Club South Pond, Vernal Pool 5, and monitoring well 27MW0038) between November 2005 and June 2010, and monthly between July 2010 and April 2012 (during non-freezing months) (Figure 1). Additionally, data loggers recorded continuous surface water elevations between October 2006 and January 2007 at Spectacle Wetland and Vernal Pool No. 651 prior to, during, and after the startup of the expanded LF-1/CS-23 remedial system. Hydrographs depicting the groundwater and surface water elevations are provided for Spectacle Wetland and Vernal Pool No. 651 in Figures 2, 3, 4, 5, 6, and 7. The startup of the expanded LF-1/CS-23 remedial system in December 2006 is indicated on the hydrographs. Precipitation data and surface water or groundwater elevation data from the three reference locations are provided on each hydrograph for comparison purposes. The hydrograph figures provide two charts for each study area; one chart provides groundwater elevation data collected at piezometers near each ecosystem, and the other chart provides surface water elevation data collected from staff gauge locations within the wetlands. In order to display and compare the small scale differences in water levels at the study areas and reference locations on the same hydrograph, the surface water and groundwater elevations measured at the reference

ITEM	REMARKS

locations were adjusted. These adjustments were accomplished by adding a constant factor to the measured groundwater elevations from the reference location. The adjustment factor used for each hydrograph is noted on the figures.

The hydrographs for all monitoring locations show similar hydraulic responses to precipitation events on the surface water and groundwater hydrographs. Additionally, the groundwater and surface water elevations and observed temporal changes are very similar between the piezometer and staff gauge data at each ecosystem. This provides further evidence supporting the conclusion that there is hydraulic connection between the surface water and groundwater at each of the ecosystems; therefore, changes to surface water elevations correspond well with changes to groundwater elevations at those locations.

The water level records for one of the reference locations (Rod and Gun Club South Pond) indicate that the highest surface water elevations recorded at that location in 2006 and 2007 occurred during the summer months (i.e., prior to and after the startup of the expanded LF-1/CS-23 remedial system) (**Figure 1**). Those water level peaks are nearly identical at that reference location in June of 2006 and 2007, which makes for a useful qualitative comparison point for the data collected at Spectacle Wetland and Vernal Pool No. 651. The measured difference in the peaks of the 2006 and 2007 summer time groundwater elevations in Spectacle Wetland and Vernal Pool No. 651 are approximately 1.3 and 0.7 feet, respectively. The 2007 modeling simulations predict approximately 1.8 and 1.4 feet of groundwater drawdown at Spectacle Wetland and Vernal Pool No. 651, respectively (AFCEE 2009a), which is a reasonable match to the observed data. Therefore, the hydrographs for Spectacle Wetland (**Figures 2**, **3**, **4**, and **5**) and Vernal Pool No. 651 (**Figures 6** and **7**) suggest that the expanded LF-1/CS-23 remedial system is drawing down the groundwater levels at those ecosystems, but not to the extent predicted by the 2007 modeling simulations (AFCEE 2009a).

The hydrographs depict a decline in groundwater and surface water levels of between approximately 0.8 and 1.5 feet at all locations (including the reference locations) during 2008 based on the summer peaks (**Figures 2**, **3**, **4**, **5**, **6**, and **7**). Note that the reference locations are outside the influence of the expanded LF-1/CS-23 treatment system. The observed decline in water levels in 2008 appears to be region-wide, and does not appear to be associated with the operation of the expanded LF-1/CS-23 treatment system. The groundwater elevation record from reference monitoring well 27MW0038 supports this conclusion. The observed regional decline in water levels between June 2007 and June 2008 correlates well with the precipitation record for the Massachusetts Military Reservation depicted on **Figure 8**. The annual precipitation totals presented on **Figure 8** are calculated for the period of 01 June to 31 May (e.g., 2008 total precipitation value presents precipitation data recorded between 01 June 2007 and 31 May 2008). The annual precipitation data are presented in this manner in order to compare annual precipitation totals to the highest groundwater elevations recorded during a given year, which typically occurs at the end of May or beginning of June.

ITEM	REMARKS
	Groundwater elevations rebounded in the first half of 2009 at Spectacle Wetland and Vernal Pool No. 651. Groundwater elevation measurements at Spectacle Wetland and Vernal Pool No. 651 were 1.0 to 1.3 feet higher in the summer of 2009 in comparison to summer 2008 measurements. The rise in groundwater elevations at the wetland and reference locations in 2009 correlates to the increase in precipitation in 2009 (Figure 8). Groundwater and surface water elevations rose considerably in 2010. Groundwater elevations at Spectacle Wetland and Vernal Pool No. 651 were 3.1 to 3.9 feet higher in the summer of 2010 in comparison to summer 2009. The rise in groundwater elevations at the wetland and reference locations in 2010 also correlates to the increase in precipitation in 2010 (Figure 8). The precipitation record for the summer of 2010 (measured from June 2009 through May 2010) was the highest recorded total (approximately 63 inches) since 1997 (Figure 8), and well above the average yearly precipitation total of approximately 48 inches for Cape Cod. As noted on Figures 3, 5 and 7, the water levels in the surface water bodies rose to levels above the top of the staff gauges in the spring and summer of 2010, making the accurate collection of water level measurements not possible. Groundwater elevations dropped approximately two and a half feet at Spectacle Wetland and Vernal Pool No. 651 in the summer of 2011 in comparison to the summer of 2010. The decrease in groundwater elevations correlates to a decrease in precipitation between 2010 and 2011 (Figure 8). The summer 2011 precipitation total (approximately 57 inches measured between June 2010 and May 2011) was still an above average year, however. The summer 2012 precipitation total (approximately 49 inches measured between June 2011 and May 2012) was an average precipitation year (Figure 8). However, because the summer 2012 precipitation total was less than the previous two years, groundwater and surface water elevations decreased in 2012 in comparison to 2011. Groundwater elevations in May 2012 are approximately 4 feet lower than the highest groundwater elevations measured during this evaluation (in May 2010), and are approximately 3 feet higher than the lowest groundwater elevations measured during this evaluation (in December 2008) (Figures 3, 5 and 7). Surface water elevations in May 2012 are approximately 2½ to 3 feet lower than the highest measured elevations during this evaluation (in May 2006 and May 2010), and are 1 foot to 1½ feet higher than the lowest measured elevations during this evaluation (in September 2008).
4.0	**CONCLUSIONS AND RECOMMENDATIONS** The 2007 and 2008 wetland and surface water ecological evaluations concluded that there have been changes to the groundwater and surface water levels at the ecosystems of concern, probably due to the operation of the expanded LF-1/CS-23 remedial system. Hydraulic changes have occurred at Spectacle Wetland and Vernal Pool No. 651, where the monitoring data suggests that up to 1.3 feet of groundwater drawdown may have occurred during the first few months of 2007 after startup of the expanded system in December 2006. The 2007 monitoring data indicated

ITEM	REMARKS
	that the aquifer had reached steady state conditions (in terms of drawdown caused by the remedial system) after the first few months of operation of the remedial system. Based on the data collected in 2008, the groundwater and surface water elevation trends at the study locations and reference locations appeared similar; suggesting that changes in water levels in 2008 were region wide and not related to the operation of the system. Therefore, the 2008 monitoring data indicated that the expanded LF-1/CS-23 remedial system was not impacting groundwater or surface water levels above and beyond what was observed during the first few months after system startup. Groundwater and surface water measurements collected at the ecosystems of concern and reference locations in 2009 (Figures 2, 3, 4, 5, 6, and 7) indicate a recovery of regional water levels that correlates with the annual precipitation record (Figure 8). Groundwater and surface water elevations continued to rise in 2010 with an accompanying rise in the precipitation record (Figures 2, 3, 4, 5, 6, 7 and 8). The precipitation record for the summer of 2010 (measured from June 2009 through May 2010) was the highest recorded total since 1997. The precipitation record for the summer 2011 remained above average, but was less than that measured through the summer of 2010. The precipitation record for the summer of 2012 was an average year. This data collected between 2009 and 2012 further supports the conclusion that there is no additional drawdown of groundwater or surface water near Spectacle Wetland and Vernal Pool No. 651 above and beyond what was observed during the first few months after startup of the expanded LF-1/CS-23 remedial system. No significant changes to the vegetation composition or the wildlife habitat were observed during surveys conducted between 2006 and 2011. Those findings suggest that while the water levels have lowered (possibly due to the operation of the system), the ecosystem, vegetation, and wildlife habitat did not change significantly between 2006 and 2011. Results from the 2012 vegetation and wildlife survey further support this finding; there were no significant changes to the vegetation composition or the wildlife habitat observed during the 2012 survey. It is uncertain whether the observed water level changes will impact the health of these two ecosystems in the future. Therefore, it is recommended that water levels continue to be monitored monthly during non-freezing months at Spectacle Wetland, Vernal Pool No. 651, and the reference locations (Rod and Gun Club South Pond, Vernal Pool 5, and monitoring well 27MW0038). Monthly water level data will be sufficient to meet the monitoring objectives at Spectacle Wetland and Vernal Pool No. 651. No significant changes to the vegetation composition or the wildlife habitat have been observed since monitoring began in 2006. The frequency of vegetation and wildlife surveys was reduced to every other year in 2010, unless low water levels trigger a contingency survey (AFCEE 2011b). Therefore, the next scheduled vegetation and wildlife survey will be in the spring of 2014 unless low water levels in the spring of 2013 trigger a contingency survey. Since there are no observed ecological impacts to the two ecosystems of concern to date, no changes to the LF-1/CS-23 remedial system operation are recommended at this time.

ITEM	REMARKS
5.0	**REFERENCES**

Air Force Center for Engineering and the Environment (AFCEE). 2011a (October). Project Note. *LF-1/CS-23 2011 Wetland Survey Update Data Presentation Project Note.* 420005-SPEIM-LF1/CS23-PRJNOT-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.

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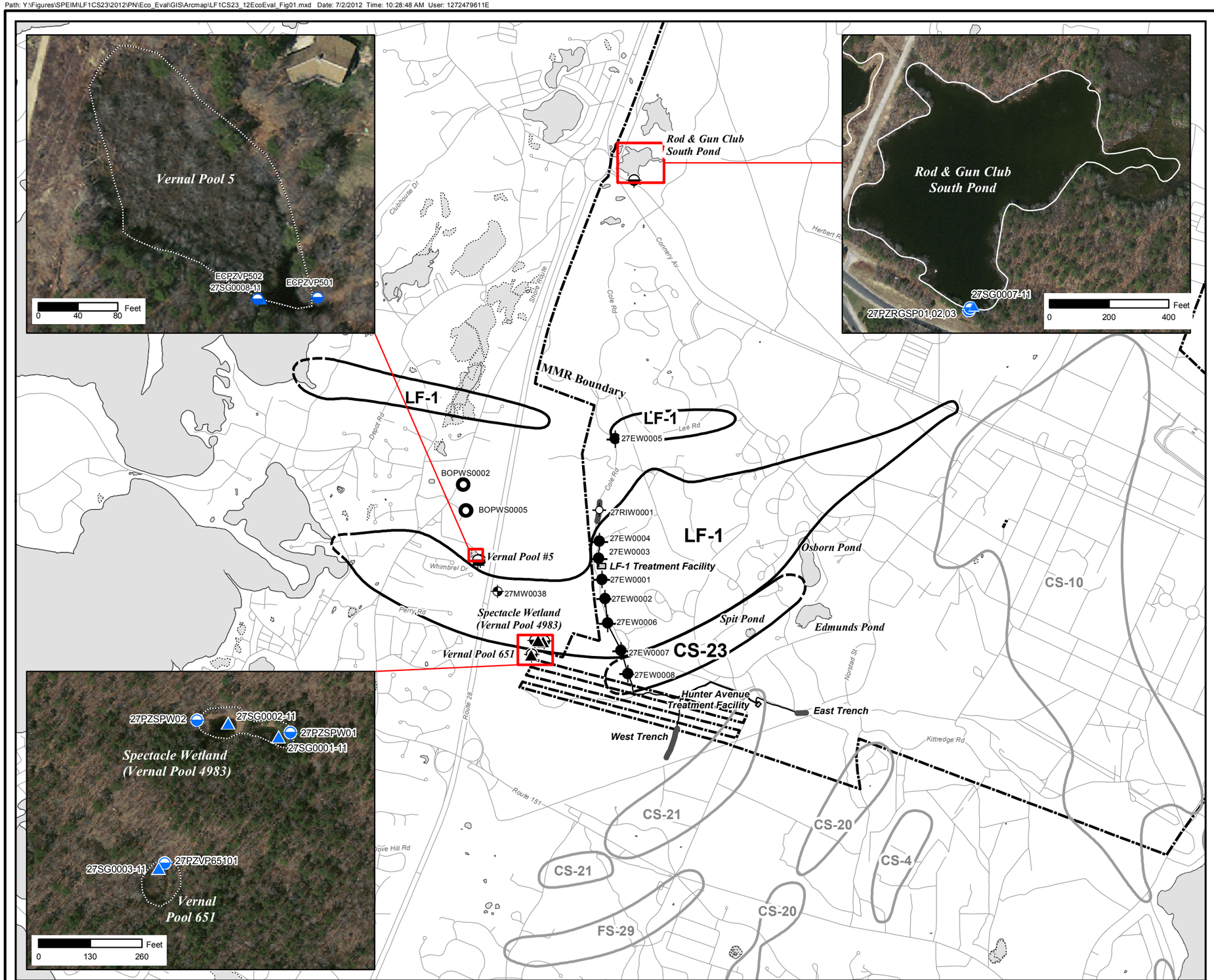
_____. 2006b (July). Project Note. *Scope of Work for the Ecological Evaluation of Wetlands and Surface Waters Potentially Affected by the LF-1 and CS-23 Groundwater Treatment Systems.* 337105-SPEIM-LF1-PRJNOT-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.

ARNG. (Army National Guard) 2009. Camp Edwards Training Site Integrated Natural Resources Management Plan. Prepared by ANG Camp Edwards Natural Resources Office, Camp Edwards, MA.

Attachments:

Figure 1. Ecosystems of Concern and Reference Locations in the LF-1/CS-23 Area
Figure 2. Groundwater Elevation Measured at East Side of Spectacle Wetland and Reference Locations
Figure 3. Surface Water Elevation Measured at East Side of Spectacle Wetland and Reference Locations
Figure 4. Groundwater Elevation Measured at West Side of Spectacle Wetland and Reference Locations
Figure 5. Surface Water Elevation Measured at West Side of Spectacle Wetland and Reference Locations
Figure 6. Groundwater Elevation Measured at Vernal Pool No. 651 and Reference Locations
Figure 7. Surface Water Elevation Measured at Vernal Pool No. 651 and Reference Locations
Figure 8. Annual Massachusetts Military Reservation Precipitation – Summer to Summer
Attachment 1. 2012 Vegetation Survey Data Sheets
Attachment 2. 2012 Vernal Pool No. 651, Spectacle Wetland (Vernal Pool No. 4983), and Vernal Pool No. 5 Photographs

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Legend

- Extraction Well
- Reinjection Well
- Public Water Supply Well
- Staff Gauge
- Piezometer
- Treatment Facility
- Infiltration Gallery
- Bog/Wetland
- Massachusetts Military Reservation Boundary
- Infiltration Trench
- LF-1/CS-23 Plume Boundary (Dashed Where Inferred)
- Other Plume Boundary

N

0 1,500 3,000
Feet

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse
2009 Aerial Photography from MassGIS

FIGURE 1

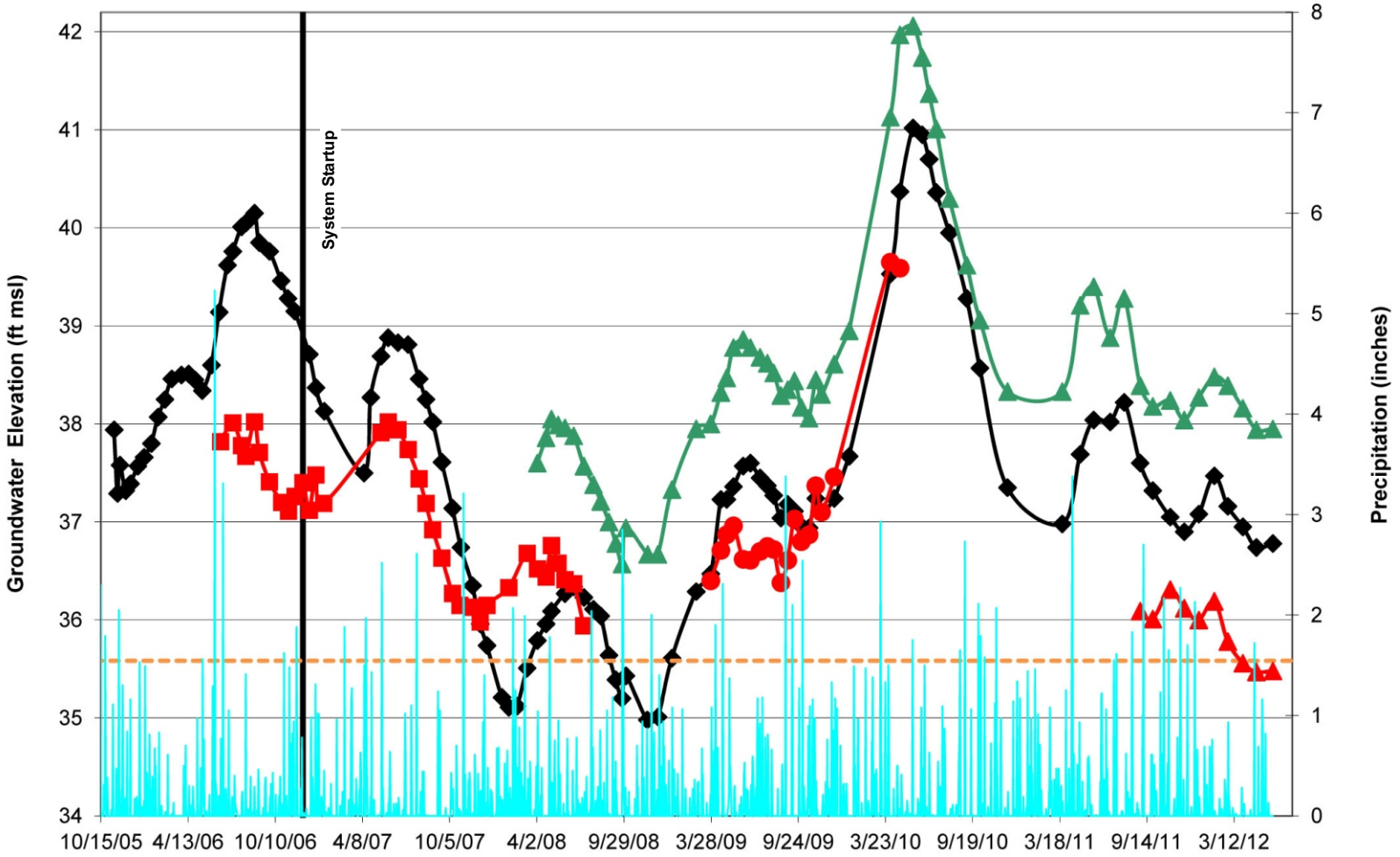
ECOSYSTEMS OF CONCERN AND REFERENCE LOCATIONS IN THE LF-1/CS-23 AREA

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

CH2MHILL

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*Rod & Gun Club South Pond piezometer 27PZRGSP01 went dry in July 2008. A replacement piezometer (27PZRGSP02) was installed in March 2009. 27PZRGSP02 was flooded in April 2010 and became unuseable. A replacement piezometer (27PZRGSP03) was installed in August 2011.

Legend

Groundwater Elevations:

- Spectacle Wetland (27PZSPW01)
- Adjusted (+8 ft) Monitoring Well (27MW0038)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP01)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP02)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP03)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

FIGURE 2

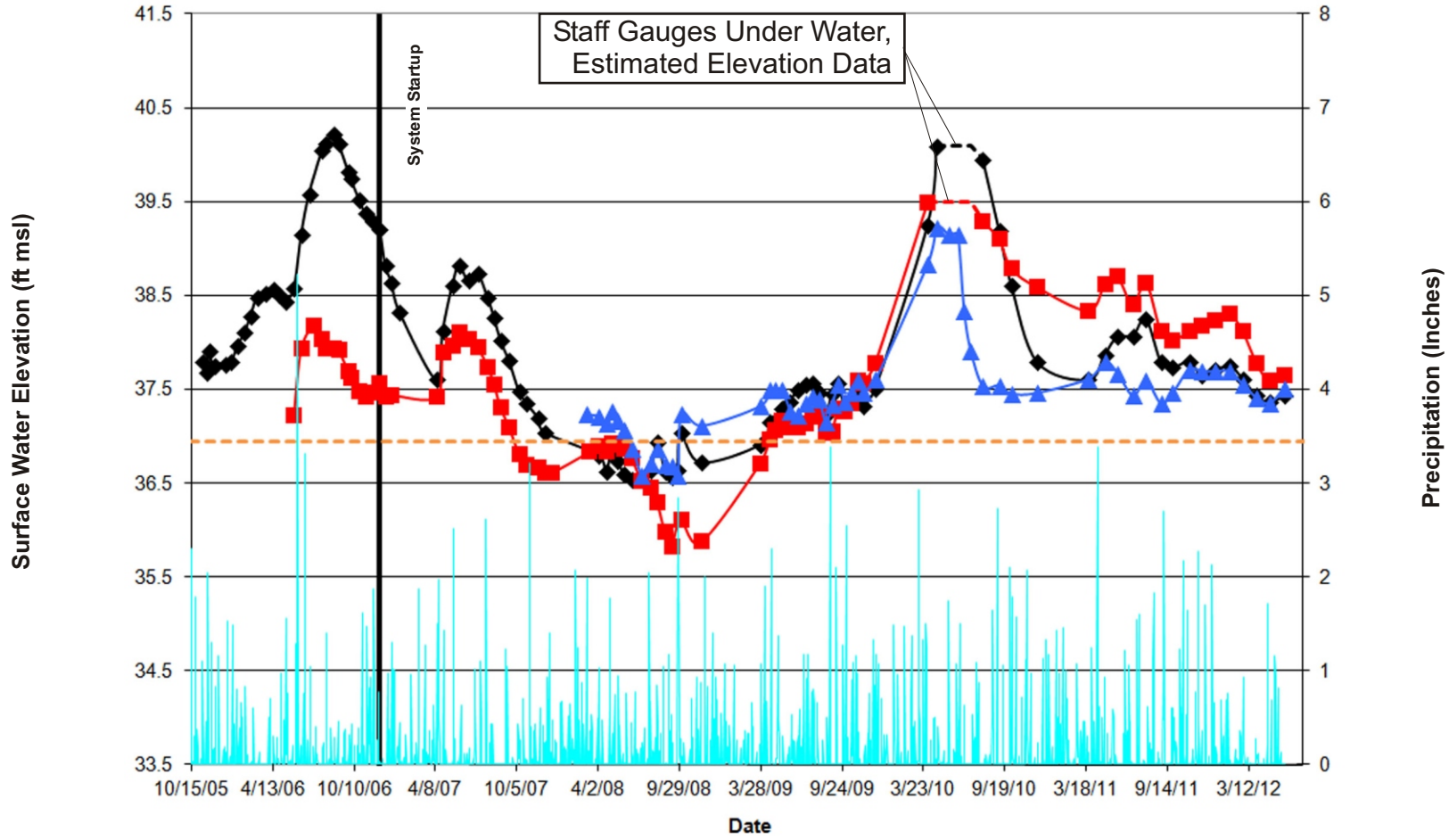
GROUNDWATER ELEVATION MEASURED AT EAST SIDE OF SPECTACLE WETLAND AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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Legend

Surface Water Elevations:

- Spectacle Wetland (27SG0001)
- Adjusted (+7 ft) Vernal Pool 5 (27SG0008)
- Adjusted (-12.5 ft) Rod and Gun Club South Pond (27SG0007)
- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

FIGURE 3

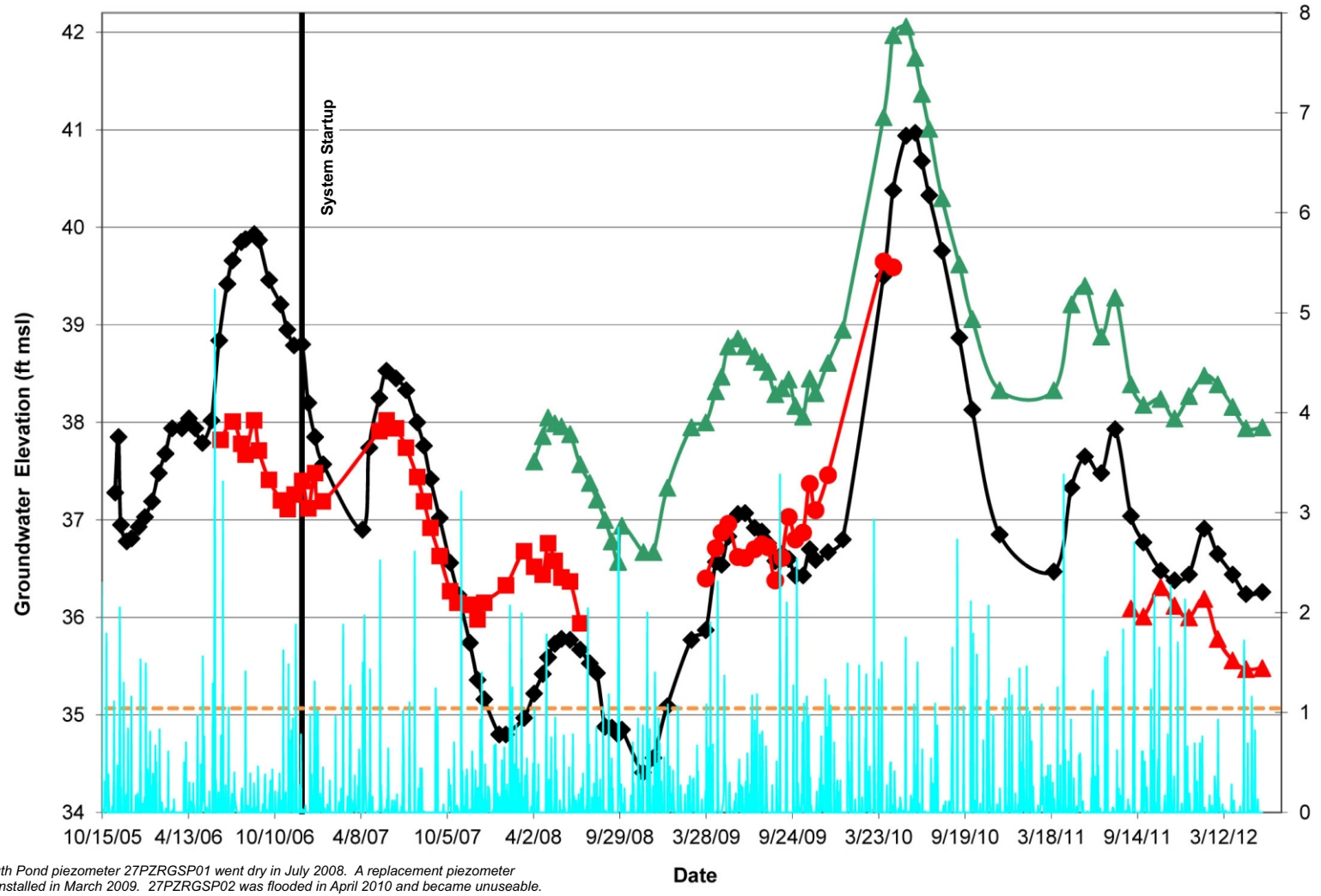
SURFACE WATER ELEVATION MEASURED AT EAST SIDE OF SPECTACLE WETLAND AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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*Rod & Gun Club South Pond piezometer 27PZRGSP01 went dry in July 2008. A replacement piezometer (27PZRGSP02) was installed in March 2009. 27PZRGSP02 was flooded in April 2010 and became unuseable. A replacement piezometer (27PZRGSP03) was installed in August 2011.

Legend

Groundwater Elevations:

- Spectacle Wetland (27PZSPW02)
- Adjusted (+8 ft) Monitoring Well (27MW0038)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP01)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP02)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP03)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

FIGURE 4

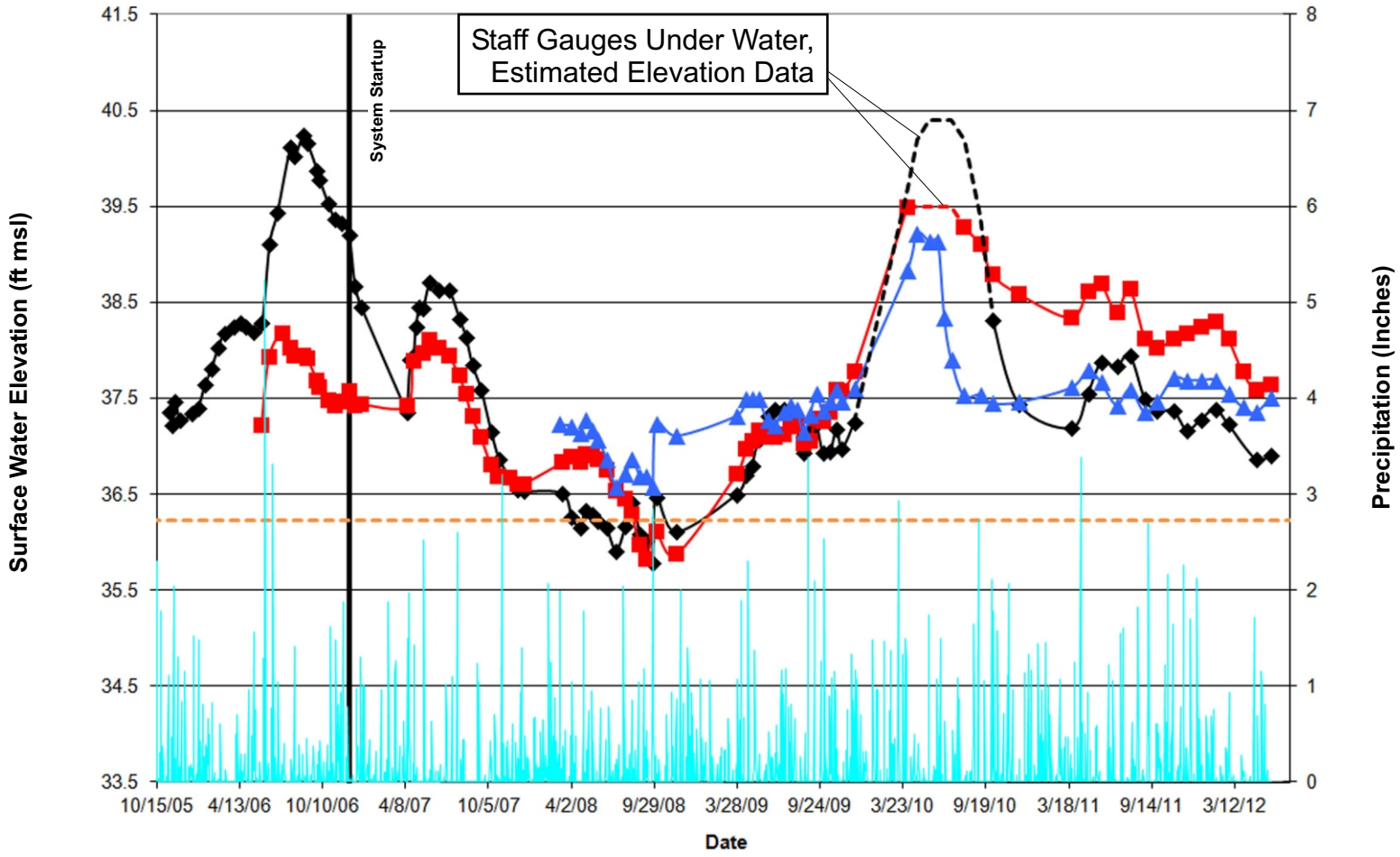
GROUNDWATER ELEVATION MEASURED AT WEST SIDE OF SPECTACLE WETLAND AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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Legend

Surface Water Elevations:

- Spectacle Wetland (27SG0002)
- Adjusted (-12.5 ft) Rod and Gun Club South Pond (27SG0007)
- Adjusted (+7 ft) Vernal Pool 5 (27SG0008)
- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

FIGURE 5

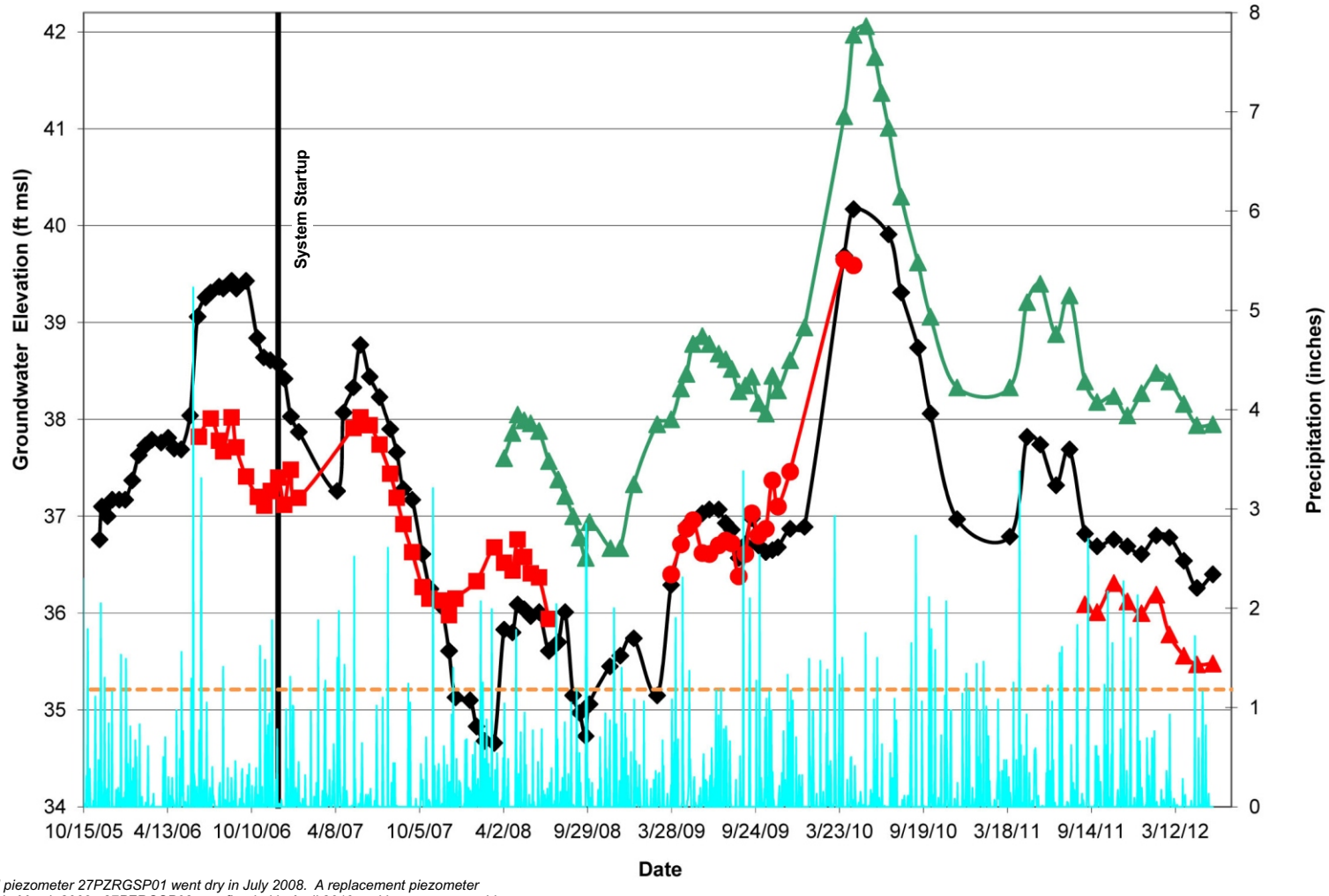
SURFACE WATER ELEVATION MEASURED AT WEST SIDE OF SPECTACLE WETLAND AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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*Rod & Gun Club South Pond piezometer 27PZRGSP01 went dry in July 2008. A replacement piezometer (27PZRGSP02) was installed in March 2009. 27PZRGSP02 was flooded in April 2010 and became unuseable. A replacement piezometer (27PZRGSP03) was installed in August 2011.

Legend

Groundwater Elevations:

- Vernal Pool No. 651 (27VP65101)
- Adjusted (+8 ft) Monitoring Well (27MW0038)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP01)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP02)
- *Adjusted (-12.5 ft) Rod and Gun Club South Pond (27PZRGSP03)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

FIGURE 6

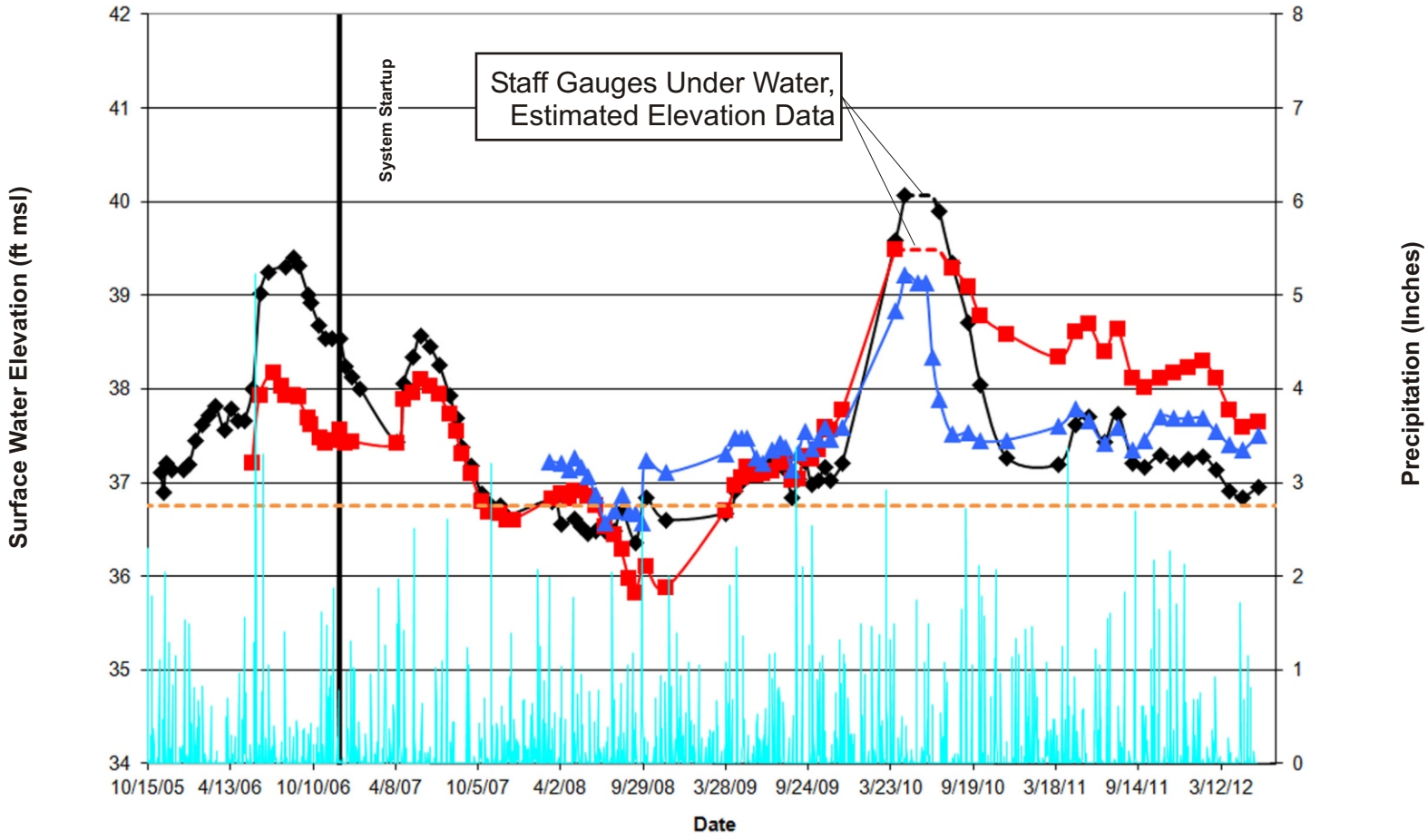
GROUNDWATER ELEVATION MEASURED AT VERNAL POOL NUMBER 651 AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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Legend

Surface Water Elevations:

- Vernal Pool 651 (27SG0003)
- Adjusted (+7 ft) Vernal Pool 5 (27SG0008)
- Adjusted (-12.5 ft) Rod and Gun Club South Pond (27SG0007)
- Precipitation (Daily Total)
- Trigger to Conduct Vegetation and Wildlife Surveys (see text)

Data Source: AFCEE, June 2012, MMR-AFCEE Data Warehouse

FIGURE 7

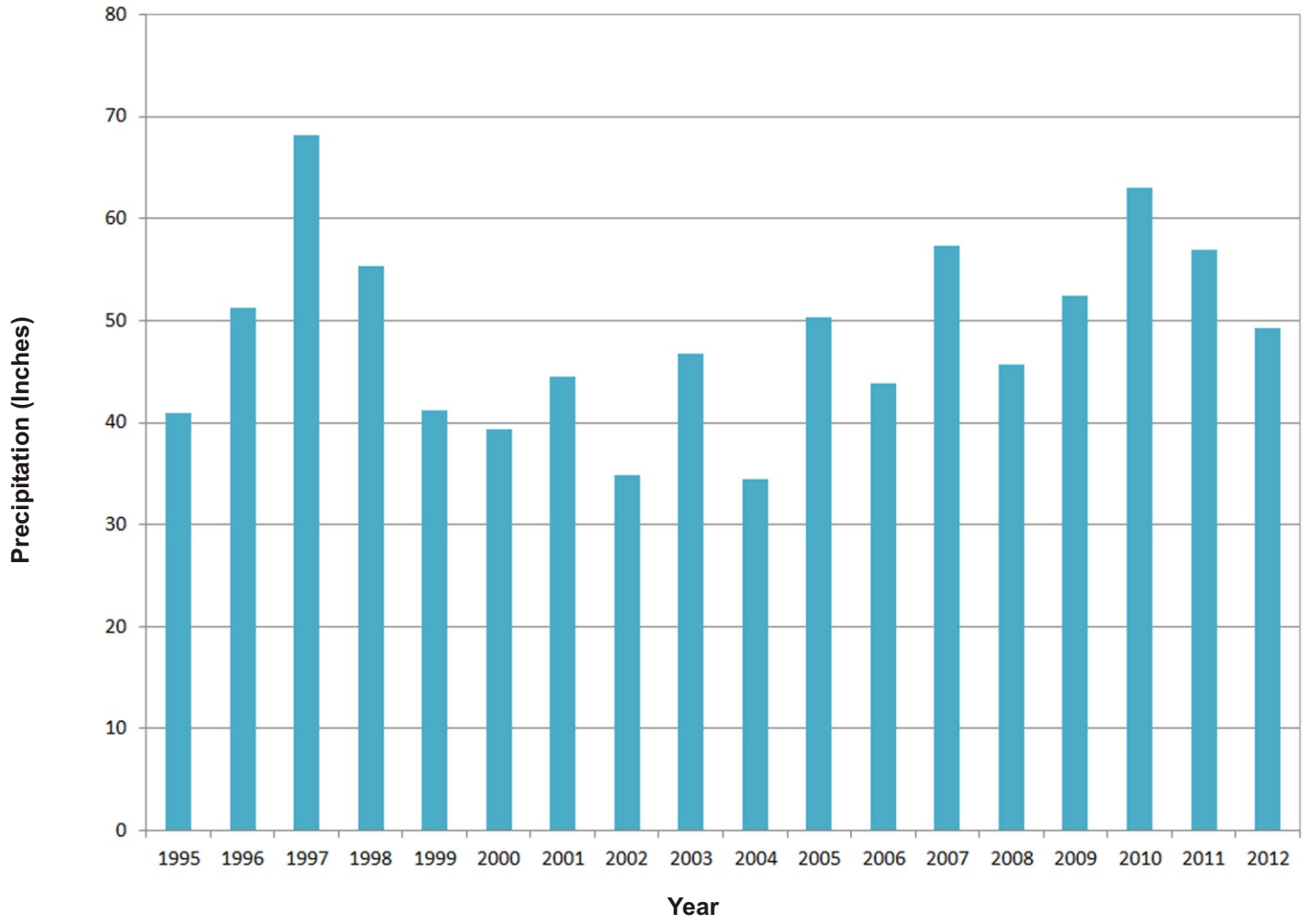
SURFACE WATER ELEVATION MEASURED AT VERNAL POOL NUMBER 651 AND REFERENCE LOCATIONS

AFCEE - Massachusetts Military Reservation

LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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Data Source: OTIS weather station from 1994 through September 2009. WHOI weather station Oct 09 to present, collected in Falmouth, MA.

**Yearly precipitation totals represent a June 01 to May 31 total (e.g., 2008 total precipitation value presents precipitation data recorded between 01 June 2007 and 31 May 2008).*

FIGURE 8

ANNUAL MASSACHUSETTS MILITARY RESERVATION PRECIPITATION - SUMMER TO SUMMER

AFCEE - Massachusetts Military Reservation
LF-1/CS-23 2012 Wetland and Surface Water Ecological Evaluation Project Note

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ATTACHMENT 1

2012 Vegetation Survey Data Sheets

2012 FIELD REPORT : VEGETATION SURVEY SHEET

Site Name:	Vernal Pool No. 651	Weather:	Sun and clouds, 45 F, 5-10 mph wind
Town:	Bourne	Date of Baseline Survey:	Monday, April 2, 2012
Transect No.:	1	Plot No. & Plot Size:	A (15 ft. x 30 ft.)
Community Type:	Transitional Community	Observers:	Michael Cunningham
Soil Type:	Plymouth-Barnstable complex, hilly, extremely bouldery	Photographs:	Yes

General Description of the Vegetation Sample Station:

Vegetation sample plot is located at the base of a wooded slope on the southern shore of vernal pool No. 651. Access to the sample plot is from a small trail that leads southwest from Spectacle Wetland. The bank area at this wetland is generally steep approaching the waters edge.

Species List with Estimated Cover and Abundance Rankings for Dominants

Cover Estimates:	1-5%	Wetlands Indicator Status:	OBL = Obligate Wetland	Abundance Rankings:	5 = Dominant
	6-15%		FACW = Facultative Wetland		4 = Very Abundant
	16-25%		FAC = Facultative		3 = Frequent
	26-50%		FACU = Facultative Upland		2 = Occasional
	51-75%		UPL = Upland		1 = Rare
	76-95%		NI = No Indicator		
	96-100%				

Species Name	Indicator	Abundance	Estimated Cover
Trees:			
Black Oak (*Quercus velutina*)	NI	1	1-5%
White Oak (*Quercus alba*)	FACU-	3	6-15%
Pitch Pine (*Pinus rigida*)	FACU	2	16-25%
Saplings:			
White Oak (*Quercus alba*)	FACU-	2	1-5%
Shrubs:			
Lowbush Blueberry (*Vaccinium angustifolium*)	FACU-	2	6-15%
Sheep Laurel (*Kalmia angustifolia*)	FAC	3	6-15%
Highbush Blueberry (*Vaccinium corymbosum*)	FACW-	2	1-5%
Vines:			
none			
Herbaceous:			
Bracken Fern (*Pteridium aquilinum*)	FACU	1	1-5%
Teaberry (*Gaultheria procumbens*)	FACU	4	16-25%

Note: The follow-up survey conducted on 02 April 2012 showed no significant change in vegetation composition when compared to the 2006 baseline survey. Subtle changes in plant community are seen due to the slope that was analyzed; southern slope versus northern slope of the wetland.

Soil Conditions:
A detailed evaluation of soil hydrology is not necessary because this is an established wetland. This evaluation focuses on the assessment of hydrophytic vegetation and wetland hydrology.

Ecological Notes:
No invasive species present within plot or in sufficient observable quantities around pond between 2006 and 2012. Transect is representative of a pond border community.
Central area of pool not evaluated because of height of water levels relative to waders.

Wildlife Observations:
Photos 1-3
Approximately 27 spotted salamander and 3 wood frog egg masses observed.
An additional (unidentified) 25 egg masses were exposed to the atmosphere and were in a deteriorated stage, precluding identification (Figure 3).
Bird species seen or heard at vernal pool 651 include; American robin (*Turdus migratorius*), black-capped chickadee (*Parus atricapillus*), American crow (*Corvus brachyrhynchos*), and an unidentified gull.

Meander Survey:

Vegetation documented from meander surveys at Vernal Pool 651 included sheep-laurel (*Kalmia angustifolia*), black oak (*Quercus velutina*), white oak (*Quercus alba*), teaberry (*Gaultheria procumbens*), lowbush blueberry (*Vaccinium angustifolium*), pitch pine (*Pinus rigida*), highbush blueberry (*Vaccinium corymbosum*), bracken fern (*Pteridium aquilinum*) and common greenbrier (*Smilax rotundifolia*).

2012 FIELD REPORT : VEGETATION SURVEY SHEET

Site Name:	Spectacle Wetland (Vernal Pool No. 4983)	Weather:	Sun and clouds, 45 F, 5-10 mph wind
Town:	Town of Bourne	Date of Baseline Survey:	Monday, April 2, 2012
Transect No.:	2	Plot No. & Plot Size:	A (15 ft. x 30 ft.)
Community Type:	Transitional Community	Observers:	Michael Cunningham
Soil Type:	Plymouth-Barnstable complex, hilly, extremely bouldery	Photographs:	Yes

General Description of the Vegetation Sample Station:

Vegetation sample plot is located at the base of a wooded slope on the northern shore of Spectacle Wetland East. Access to the sample plot is from a small trail that leads west from the LF-1 treatment system access road. The bank area at this wetland is generally steep approaching the waters edge.

Species List with Estimated Cover and Abundance Rankings for Dominants

Cover Estimates:	1-5%	Wetlands Indicator Status:	OBL = Obligate Wetland	Abundance Rankings:	5 = Dominant
	6-15%		FACW = Facultative Wetland		4 = Very Abundant
	16-25%		FAC = Facultative		3 = Frequent
	26-50%		FACU = Facultative Upland		2 = Occasional
	51-75%		UPL = Upland		1 = Rare
	76-95%		NI = No Indicator		
	96-100%				

Species Name	Indicator	Abundance	Estimated Cover
Trees:			
White Oak (*Quercus alba*)	FACU-	2	1-5%
Pitch Pine (*Pinus rigida*)	FACU	5	26-50%
Black Oak (*Quercus velutina*)	NI	2	1-5%
Saplings:			
Black Oak (*Quercus velutina*)	NI	2	1-5%
Shrubs:			
Lowbush Blueberry (*Vaccinium angustifolium*)	FACU-	4	6-15%
Highbush Blueberry (*Vaccinium corymbosum*)	FACW-	4	6-15%
sheep laurel (*Kalmia angustifolia*)	FAC	4	16-25%
mountain laurel (*Kalmia latifolia*)	FACU-	2	1-5%
Vines:			
None			
Herbaceous:			
Teaberry (*Gaultheria procumbens*)	FACU	3	1-5%

Note: The follow-up survey conducted on 2 April 2012 showed no significant change in vegetation composition when compared to the 2006 baseline survey. Subtle changes in plant community are seen due to the slope that was analyzed; The east slope of the western lobe of Spectacle wetland was inspected in 2012.

Soil Conditions:
A detailed evaluation of soil hydrology is not necessary because this is an established wetland. This evaluation focuses on the assessment of hydrophytic vegetation and wetland hydrology.

Ecological Notes:
No invasive species present within plot or in sufficient observable quantities around pond between 2006 and 2012. Transect is representative of a pond border community.
Water level lower than in 2011; the eastern and western lobes of Spectacle Wetland are not connected by water.
The eastern lobe contains little water; egg masses are partially exposed to air and showing signs of dehydration (shriveling).

Wildlife Observations:
Spectacle Wetland; photos 4-7
Spectacle Wetland West: approximately 65 spotted salamander egg masses observed.

Spectacle Wetland East: approximately 35 spotted salamander egg masses observed.
A green frog was heard in the eastern lobe.
Bird species seen or heard at Spectacle Wetland (Vernal Pool No. 4983) include; A pair of mallards (*Anas platyrynchos*), black-capped chickadees (*Parus atricapillus*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), ruffed grouse (*Bonasa umbellus*).

Meander Survey:
Vegetation documented from meander surveys at Spectacle Wetland included sheep-laurel (*Kalmia angustifolia*), black oak (*Quercus velutina*), white oak (*Quercus alba*), teaberry (*Gaultheria procumbens*), lowbush blueberry (*Vaccinium angustifolium*), pitch pine (*Pinus rigida*), highbush blueberry (*Vaccinium corymbosum*), bracken fern (*Pteridium aquilinum*), common greenbrier (*Smilax rotundifolia*), and mountain laurel (*Kalmia latifolia*). Two other species; eastern white pine (*Pinus strobus*) saplings and ground pine (*Lycopodium obscurum*), were also found at Spectacle Wetland.

2012 FIELD REPORT : VEGETATION SURVEY SHEET

Site Name:	Vernal Pool No. 5	Weather:	Sun and clouds, 45 F, 5-10 mph wind
Town:	Pocasset	Date of Baseline Survey:	Monday, April 2, 2012
Transect No.:	3	Plot No. & Plot Size:	A (15 ft. x 30 ft.)
Community Type:	Transitional Community	Observers:	Michael Cunningham
Soil Type:	Plymouth-Barnstable complex, hilly, extremely bouldery	Photographs:	Yes

General Description of the Vegetation Sample Station:

Vegetation sample plot is located at the base of a wooded slope on the western shore of vernal pool No. 5. Access to the sample plot is from by private drive off Route 28A near Sanderling Drive, Pocasset. The bank area at this wetland is generally steep approaching the waters edge.

Species List with Estimated Cover and Abundance Rankings for Dominants

Cover Estimates:	1-5%	Wetlands Indicator Status:	OBL = Obligate Wetland	Abundance Rankings:	5 = Dominant
	6-15%		FACW = Facultative Wetland		4 = Very Abundant
	16-25%		FAC = Facultative		3 = Frequent
	26-50%		FACU = Facultative Upland		2 = Occasional
	51-75%		UPL = Upland		1 = Rare
	76-95%		NI = No Indicator		
	96-100%				

Species Name	Indicator	Abundance	Estimated Cover
Trees:			
White Oak (*Quercus alba*)	FACU-	2	6-15%
Pitch Pine (*Pinus rigida*)	FACU	5	26-50%
Black Oak (Quercus velutina)	NI	2	6-15%
Saplings:			
White Oak (*Quercus alba*)	FACU-	1	1-5%
Shrubs:			
Sweet Pepperbush (*Clethra alnifolia*)	FAC+	3	1-5%
Lowbush Blueberry (*Vaccinium angustifolium*)	FACU-	3	6-15%
Nannyberry (*Viburnum lentago*)	FACU-	2	1-5%
Sheep Laurel (*Kalmia angustifolia*)	FAC	3	6-15%
Vines:			
N/A			
Herbaceous:			
Teaberry (*Gaultheria procumbens*)	FACU	1	1-5%

Note: The follow-up survey conducted on 2 April 2012 showed no significant change in vegetation composition when compared to the 2006 baseline survey. Subtle changes in plant community are seen due to the area of the wetland's bank that was analyzed; south slope versus west slope of the wetland.

Soil Conditions:
A detailed evaluation of soil hydrology is not necessary because this is an established wetland. This evaluation focuses on the assessment of hydrophytic vegetation and wetland hydrology.

Ecological Notes:
No invasive species present within plot or in sufficient observable quantities around pond between 2006 and 2012. Transect is representative of a pond border community.

Wildlife Observations:
Spotted Salamander (*Ambystoma maculatum*) - 35 egg masses observed. Poor visibility and deep water prevented survey of some portions of pond. photo #8.
Bird species seen or heard at vernal pool 5 include; American robin (*Turdus migratorius*), black-capped chickadee (*Parus atricapillus*), and an American crow (*Corvus brachyrhynchos*).

Meander Survey:

Vegetation documented from meander surveys at Vernal Pool 5 included sheep-laurel (*Kalmia angustifolia*), black oak (*Quercus velutina*), white oak (*Quercus alba*), teaberry (*Gaultheria procumbens*), lowbush blueberry (*Vaccinium angustifolium*), pitch pine (*Pinus rigida*), highbush blueberry (*Vaccinium corymbosum*), sweet pepper-bush (*Clethra alnifolia*). Eastern white pine (*Pinus strobus*) saplings and ground pine (*Lycopodium obscurum*), were also found at Vernal Pool 5 along with nannyberry (*Viburnum lentago*), but bracken fern or common greenbrier seen at Spectacle Wetland and Vernal Pool 651 were not found.

ATTACHMENT 2

2012 Vernal Pool No. 651, Spectacle Wetland (Vernal Pool No. 4983), and Vernal Pool No. 5 Photographs



Photograph No. 1. View of Vernal Pool 651 on April 2, 2012.



Photograph No. 2. Spotted Salamander Egg Masses at Vernal Pool 651 on April 2, 2012.



Photograph No. 3. Spotted Salamander Egg Masses at Vernal Pool 651 on April 2, 2012.



Photograph No. 4. View of Spectacle Wetland East on April 2, 2012.



Photograph No. 5. Spotted Salamander Egg Masses at Spectacle Wetland East.



Photograph No. 6. Spotted Salamander Egg Masses at Spectacle Wetland West.



Photograph No. 7. Spotted Salamander Egg Masses at Spectacle Wetland West.



Photograph No. 8. Spotted Salamander Egg Masses at Vernal Pool 5

CH2MHILL	PROJECT NOTE	TASK ORDER 0337
		PROJECT NO. 437075
AFCEC **SPEIM/LTM** **Otis ANG Base, Massachusetts** **Contract FA8903-08-D-8769-0337**	**DOCUMENT CONTROL NUMBER:** **437075-SPEIM-CS23-PRJNOT-001** **CDRL B010**	PAGE 1 OF 3

Confirmation Of:	Date Held: 27 September 2012
☒ Meeting	Location: IRP Conference Room
☐ Change Notice	Date Issued: 07 November 2012
☐ General Project Note	Recorded By: Jason Dalrymple
Subject: **CS-23 DIRECT PUSH DATA PRESENTATION**	Issued By: Nigel Tindall CH2M HILL PROJECT MANAGER

ITEM	REMARKS
1.0	**INTRODUCTION** This project note summarizes the Chemical Spill-23 (CS-23) direct push data presented at the 27 September 2012 Technical Update meeting. The data presented included groundwater vertical profile results from three direct push boreholes advanced at CS-23 in June 2012. This work was completed as part of the CS-23 System Performance and Ecological Impact Monitoring (SPEIM) program for the Air Force Civil Engineering Center (AFCEC). The handout for the presentation included text slides and three figures (Attachment A).
2.0	**BACKGROUND** The contaminants of concern for CS-23 are trichloroethene (TCE) and carbon tetrachloride (CCl_4). Results from the 2011 SPEIM triennial sampling event indicated that the plume has reduced in size such that existing monitoring wells are no longer appropriately screened to delineate the trailing edge of the plume (AFCEC 2012). Therefore, a direct push drilling program was initiated to collect data to delineate the trailing edge of the CS-23 plume.
3.0	**RESULTS** Direct push boring 69DP1722 was advanced adjacent to existing monitoring well 69MW1714A/B (Figures 1 and 2 of Attachment A). TCE was detected at 69DP1722 at concentrations above the maximum contaminant level (MCL) of 5 micrograms per liter (µg/L) at elevations that are between the screen intervals of monitoring wells 69MW1714A and 69MW1714B. The maximum TCE concentration at 69DP1722 was 12 µg/L collected from a sample at approximately -95 feet mean sea level (ft msl). The TCE concentrations detected at 69DP1722 correlate well with the estimated location of the plume in 2011 as delineated on Figure 2 of Attachment A. Direct push boring 69DP1722 reached drilling refusal on an assumed low hydraulic conductivity unit at approximately -105 ft msl. Based on historic data trends at 69MW1714A and 69MW1708A, the CS-23 plume is located above the assumed low hydraulic conductivity unit that 69DP1722 refused upon.

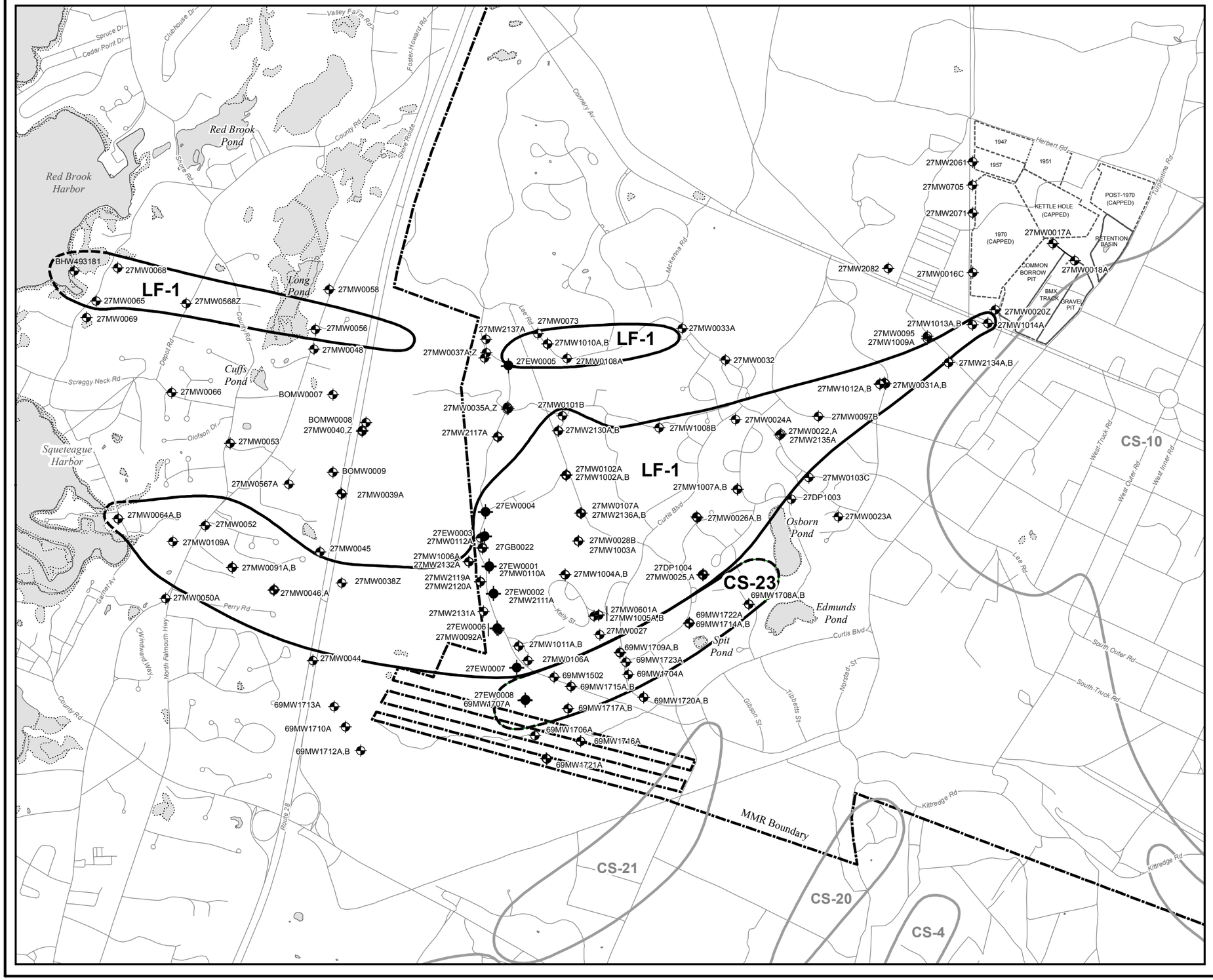
Distribution: AFCEE: Jon Davis, Rose Forbes, Admin. Record; EPA: Bob Lim; MassDEP: Len Pinaud, Elliott Jacobs; CH2M HILL: Nigel Tindall, Jason Dalrymple, Doc. Control

ITEM	REMARKS
	Direct push boring 69DP1723 was advanced between monitoring wells 69MW1704A and 69MW1709A/B (Figures 1, 2, and 3 of Attachment A). TCE was detected at 69DP1723 at concentrations above the MCL of 5 µg/L at the two deepest sample intervals before drilling refusal was encountered at approximately -60 ft msl. The maximum TCE concentration at 69DP1723 was 19 µg/L collected at approximately -57 ft msl. The TCE concentrations detected at 69DP1723 correlate well with the estimated location of the plume in 2011 as delineated on Figure 3 of Attachment A. Direct push boring 69DP1724 was advanced approximately 200 feet north of monitoring well 69MW1708A/B (Figures 1 and 2 of Attachment A). TCE was not detected at 69DP1724 at concentrations above the MCL of 5 µg/L and drilling refusal was encountered at approximately -50 ft msl. Based on historic data trends at 69MW1714A and 69MW1708A, it is assumed that the plume would be located shallower than the refusal depth at 69DP1724 if it were present. Therefore, the results of this direct push investigation and a review of historic monitoring data indicate the trailing edge of the CS-23 plume is located between direct push locations 69DP1724 and 69DP1722 (Figure 1 of Attachment A).
4.0	**CONCLUSIONS AND RECOMMENDATIONS** The uncertainty in the location of the trailing edge of the CS-23 plume has been adequately addressed with this direct push drilling program. AFCEC will install monitoring wells 69MW1722A and 69MW1723A at the elevations that had the highest TCE concentrations at direct push locations 69DP1722 and 69DP1723, respectively. Those monitoring wells will be added to the CS-23 SPEIM network for annual monitoring (Figure 1), and incorporated into the Comprehensive Long Term Monitoring Plan (Table 1).
5.0	**REGULATOR COMMENTS AND CONCURRENCE** No comments were received from the regulatory agencies at the 27 September 2012 Technical Update meeting. Concurrence with the proposed monitoring network revisions (Table 1) for the CS-23 SPEIM program is represented by the signatures below: 11/1/12 EPA Representative 11/5/12 MassDEP Representative 6 NOV 12 AFCEE Project Manager Note: The parties involved will retain the ability to modify the SPEIM network based on field observations or other mutually agreeable technical justifications.

ITEM	REMARKS
6.0	**REFERENCE** AFCEC 2012. Project Note: *LF-1/CS-23 2011 Triennial SPEIM Data Presentation*. 420005-SPEIM-LF1/CS23-PRJNOT-002. Prepared by CH2M HILL for AFCEC/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.

Attachments:
Figure 1: LF-1 and CS-23 Proposed Chemical Monitoring Network
Table 1: Proposed LF-1/CS-23 Chemical Monitoring Network
Attachment A: CS-23 Direct Push Data Presentation, 27 September 2012 Technical Update Meeting

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Legend

- Extraction Well
- Monitoring Well
- LF-1/CS-23 Plume Boundary (Dashed Where Inferred)
- Other Plume Boundary (Dashed Where Inferred)
- Massachusetts Military Reservation Boundary
- Landfill Cell Boundary
- Other Landfill Boundary
- Bog/Wetland

N

0 900 1,800

Feet

Data Source: AFCEC, October 2012, MMR-AFCEE Data Warehouse

FIGURE 1

LF-1 AND CS-23 PROPOSED CHEMICAL MONITORING NETWORK

AFCEC - Massachusetts Military Reservation

CS-23 Direct Push Data Presentation Project Note

CH2MHILL

Table 1
Proposed LF-1/CS-23 Chemical Monitoring Network
CS-23 Direct Push Data Presentation Project Note

Location	Upgradient and/or Source Area Monitoring	Monitoring in Main Body of Plume	Leading Edge and/or Downgradient of Treatment System	Plume Boundary Monitoring	Mass Removal	Post Closure Monitoring	Northwest Operable Unit	Bourne Upgradient Monitoring	Frequency	Proposed Frequency	Parameters
LF-1 Chemical Monitoring Network											
27DP1003		✓		✓					TE		VOC
27DP1004		✓		✓					TE		VOC
27EW0001					✓				SA		VOC
27EW0002					✓				Q		VOC, EDB
27EW0003					✓				SA		VOC
27EW0004					✓				SA		VOC
27EW0005					✓				SA		VOC
27EW0006					✓				Q		VOC, EDB
27GB0022		✓							TE		VOC
27MW0016C	✓					✓			TE		VOC
27MW0017A	✓					✓			TE		VOC
27MW0018A	✓					✓			TE		VOC
27MW0020Z	✓								TE		VOC
27MW0022		✓							A		VOC
27MW0022A		✓							TE		VOC
27MW0024A		✓							TE		VOC
27MW0025		✓		✓					TE		VOC
27MW0025A		✓		✓					TE		VOC
27MW0026A		✓							TE		VOC, EDB
27MW0026B		✓							A		VOC
27MW0026B		✓							TE		EDB
27MW0027		✓		✓					TE		VOC
27MW0028B		✓							A		VOC
27MW0031A	✓								A		VOC
27MW0031B	✓								TE		VOC
27MW0032				✓					TE		VOC
27MW0033A		✓							TE		VOC
27MW0035A				✓					TE		VOC
27MW0035Z				✓					TE		VOC
27MW0037A			✓						A		VOC
27MW0037Z			✓						TE		VOC
27MW0038Z			✓						TE		VOC
27MW0039A			✓					✓	A		VOC[1]
27MW0040			✓					✓	A		VOC[1]
27MW0040Z			✓						TE		VOC
27MW0044			✓						TE		VOC
27MW0045			✓						TE		VOC
27MW0046			✓						TE		VOC
27MW0046A			✓						TE		VOC
27MW0048			✓						TE		VOC
27MW0050A			✓						TE		VOC
27MW0052			✓	✓					TE		VOC
27MW0053			✓						TE		VOC
27MW0056			✓						A		VOC
27MW0064A			✓	✓					TE		VOC
27MW0064B			✓	✓					TE		VOC
27MW0065			✓	✓					TE		VOC
27MW0066			✓						TE		VOC
27MW0068			✓	✓					TE		VOC
27MW0069			✓	✓					TE		VOC
27MW0073		✓		✓					TE		VOC

Table 1
Proposed LF-1/CS-23 Chemical Monitoring Network
CS-23 Direct Push Data Presentation Project Note

Location	Upgradient and/or Source Area Monitoring	Monitoring in Main Body of Plume	Leading Edge and/or Downgradient of Treatment System	Plume Boundary Monitoring	Mass Removal	Post Closure Monitoring	Northwest Operable Unit	Bourne Upgradient Monitoring	Frequency	Proposed Frequency	Parameters
27MW0091A			✓						TE		VOC
27MW0092A			✓						TE		VOC
27MW0095	✓								TE		VOC
27MW0097B		✓							A		VOC
27MW0101B		✓							A		VOC
27MW0102A		✓							A		VOC
27MW0102A		✓							TE		Mn
27MW0103C		✓							TE		VOC
27MW0106A		✓							TE		VOC
27MW0107A		✓							A		VOC
27MW0108A		✓							A		VOC
27MW0109A			✓						TE		VOC
27MW0110A		✓							TE		VOC
27MW0112A		✓							TE		VOC
27MW0567A			✓						TE		VOC
27MW0568Z			✓						TE		VOC
27MW0601A		✓							TE		VOC
27MW0705							✓		BE		VOC
27MW1002A		✓							A		VOC
27MW1002B		✓							A		VOC
27MW1003A		✓							A		VOC
27MW1004A		✓							TE		VOC, EDB
27MW1004B		✓							TE		VOC
27MW1005A		✓							A		VOC
27MW1005B		✓							A		VOC
27MW1006A			✓						A		VOC
27MW1007A		✓							TE		VOC
27MW1007B		✓							A		VOC
27MW1007B		✓							TE		EDB
27MW1008B		✓							TE		VOC
27MW1009A		✓							TE		VOC
27MW1010A		✓							A		VOC
27MW1010B		✓							TE		VOC
27MW1011A		✓							TE		VOC
27MW1011B		✓							TE		VOC
27MW1012A	✓								TE		VOC
27MW1012B	✓								A		VOC
27MW1013A	✓								TE		VOC
27MW1013B	✓								A		VOC
27MW1014A	✓								A		VOC
27MW2061							✓		BE		VOC
27MW2071						✓			A		VOC
27MW2082						✓			TE		VOC
27MW2111A		✓							TE		VOC
27MW2117A			✓						TE		VOC
27MW2119A			✓						A		VOC
27MW2119A			✓						TE		Mn
27MW2120A			✓						A		VOC
27MW2130A		✓							TE		Mn
27MW2130B		✓							TE		VOC, Mn
27MW2131A			✓						A		VOC
27MW2132A			✓						A		VOC
27MW2134A	✓								TE		VOC, Mn
27MW2134B	✓								TE		VOC, EDB

Table 1
Proposed LF-1/CS-23 Chemical Monitoring Network
CS-23 Direct Push Data Presentation Project Note

Location	Upgradient and/or Source Area Monitoring	Monitoring in Main Body of Plume	Leading Edge and/or Downgradient of Treatment System	Plume Boundary Monitoring	Mass Removal	Post Closure Monitoring	Northwest Operable Unit	Bourne Upgradient Monitoring	Frequency	Proposed Frequency	Parameters
27MW2135A		✓							A		VOC
27MW2136A		✓							A		VOC
27MW2136A		✓							TE		Mn
27MW2136B		✓							TE		VOC
27MW2137A				✓					TE		VOC
BHW493181			✓						A		VOC
BOMW0007								✓	A		VOC[1]
BOMW0008								✓	A		VOC[1]
BOMW0009								✓	A		VOC[1]
CS-23 Chemical Monitoring Network											
27EW0007					✓				Q		VOC
27EW0008					✓				Q		VOC
27MW0023A	✓			✓					TE		VOC
69MW1502				✓					TE		VOC
69MW1704A		✓							TE		VOC
69MW1706A			✓						TE		VOC
69MW1707A		✓							TE		VOC
69MW1708A		✓							TE		VOC
69MW1708B		✓							TE		VOC
69MW1709A		✓							TE		VOC
69MW1709B		✓							A		VOC
69MW1710A			✓						A		VOC
69MW1712A			✓						A		VOC
69MW1712B			✓						TE		VOC
69MW1713A			✓						A		VOC
69MW1714A		✓							TE		VOC
69MW1714B		✓							TE		VOC
69MW1715A		✓							A		VOC
69MW1715B		✓							A		VOC
69MW1716A				✓					TE		VOC
69MW1717A		✓							TE		VOC
69MW1717B		✓							TE		VOC
69MW1720A				✓					TE		VOC
69MW1720B				✓					TE		VOC
69MW1721A				✓					TE		VOC
69MW1722A		✓							NM	A	VOC
69MW1723A		✓							NM	A	VOC

Note:

Analytical sampling methods for the specified parameters: VOC (SW846 8260B); VOC [1] (EPA 524.2); EDB (EPA 504.1); Mn (SW6010B).

Key:

A = annually
EDB = ethylene dibromide
Mn = manganese
Q = quarterly
SA = semiannually
TE = triennially
VOC = volatile organic compound

ATTACHMENT A

CS-23 Direct Push Data Presentation
27 September 2012 Technical Update Meeting

CS-23 Direct Push Data Presentation

27 September 2012 Technical Update Meeting

- Drilling Dates: June 2012

- Drilling Program
  - Groundwater vertical profiling conducted at three locations (69DP1722 - 69DP1724) with the direct push rig to help delineate CS-23 trailing edge.

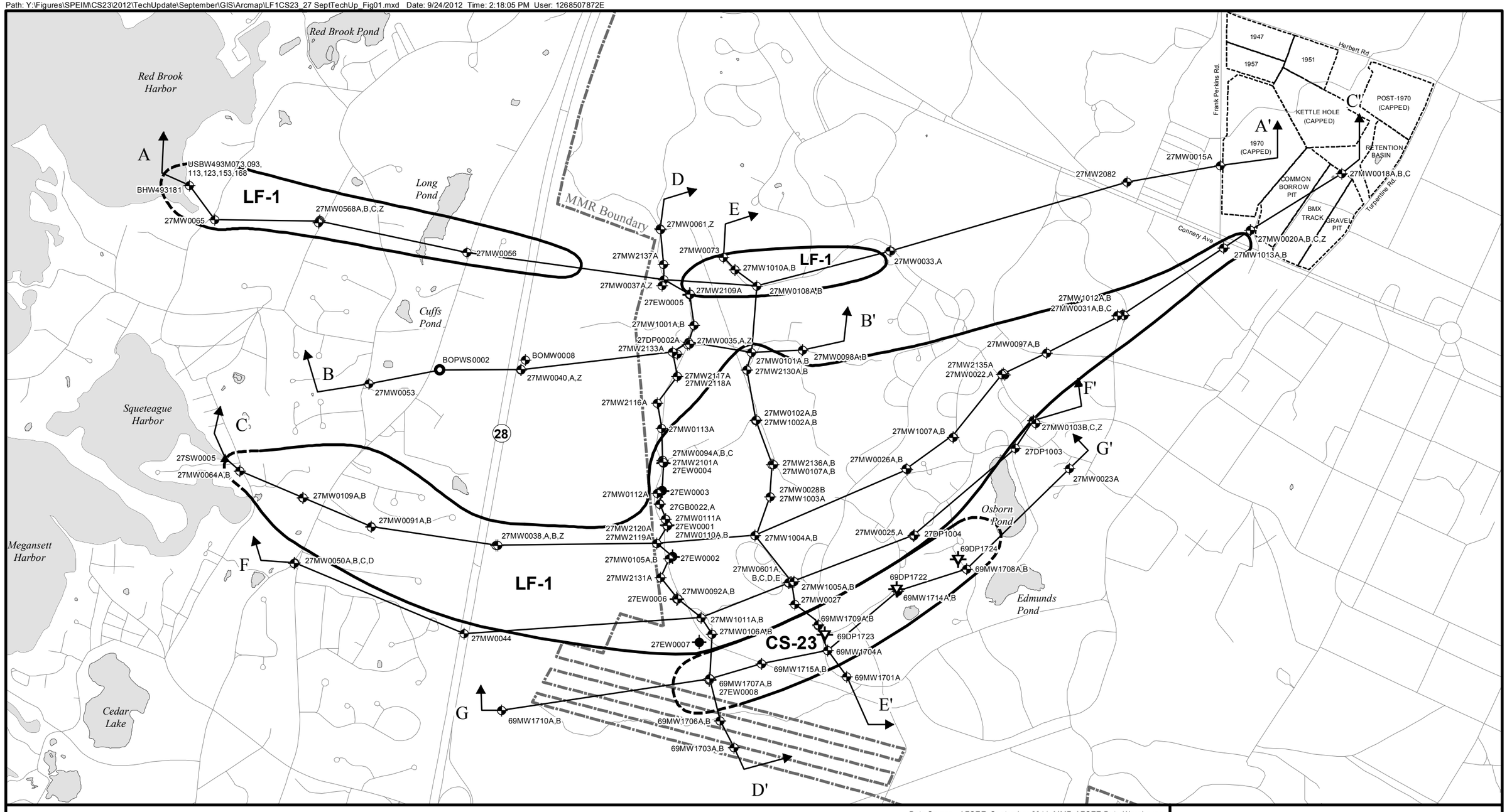
- Review map and cross-section depicting vertical profile results

CS-23 Direct Push Data Presentation

27 September 2012 Technical Update Meeting

- Overview of Results
  - CS-23 direct push results indicate that the trailing edge of the plume is between 69DP1724 (69MW1708A/B) and 69DP1722 (69MW1714A/B)
  - The uncertainty in the trailing edge has been adequately addressed with the direct push investigation
- Plans and Recommendations
  - Install monitoring wells (69MW1722A and 69MW1723A) at the elevation of the highest TCE detections at drilling locations 69DP1722 and 69DP1723 to monitor trailing edge of plume
  - Sample new wells (69MW1722A and 69MW1723A) on an annual frequency

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Legend

- Monitoring Well
- Extraction Well
- Seep Sampling Location
- Public Water Supply
- Direct Push Location
- LF-1 Source Area Boundary
- 2011 Plume Boundary (Dashed Where Inferred)
- MMR Boundary
- Cross-Section Line (A — A')

Data Source: AFCEE, September 2011, MMR-AFCEE Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011

N

0 710 1,420 Feet

FIGURE 1

LF-1/CS-23 2011 COMPOSITE MCL PLUME BOUNDARY AND LINES OF CROSS-SECTION

AFCEE - Massachusetts Military Reservation

27 September 2012 Technical Update Meeting

CH2MHILL

WEST

G

G'

EAST

ELEVATION (FEET MEAN SEA LEVEL)

69MW1710A,B

Intersection with D-D'
69MW1707A,B
27EW0008

69MW1715A,B

Intersection with E-E'
69MW1704A
69DP1723 (Projected Location)

69MW1714A,B
69DP1722

69MW1708A,B
69DP1724 (Projected Location)

Osborn Pond

27MW0023A

B ND
A 4.2

B ND
A 18
4.8

B ND
A ND
ND
BRL
1.0
BRL
1.2
18
19

B 17
A 8.7

B 3.8
ND
ND
ND
BRL
BRL
BRL
1.0
6.8
9.3
7.4
7.0
12.0
BRL
A 1.7

B ND
ND
ND
BRL
BRL
1.2
BRL
BRL
A 1.8

A ND

5
10
5

Legend

- Monitoring Well
- Direct Push Location
- Extraction Well
- Water Table
- 9.8 Most Recent TCE Data (µg/L) at Extraction Well
- NS Not Sampled
- ND Nondetect
- Extraction Well Screen
- A Well Screen ID
- 2.6 TCE Data (µg/L) Collected in 2011 Unless Otherwise Noted
- 5 2011 TCE Isoconcentration Contour (MCL = 5 µg/L) (Dashed Where Inferred)
- 9.3 TCE Vertical Profile Data (µg/L) June 2012

Data Source: AFCEE, September 2011, MMR-AFCEE Data Warehouse

V: 60
H: 909
0 Feet

FIGURE 2

LF-1/CS-23 TCE CROSS-SECTION G-G'

AFCEE - Massachusetts Military Reservation

27 September 2012 Technical Update Meeting

CH2MHILL

NORTH

E

SOUTH

E'

ELEVATION (FEET MEAN SEA LEVEL)

27MW0073
27MW1010A,B
27MW0108A,B
Intersection with A-A'
27MW0101A,B
Intersection with B-B'
27MW2130A,B
27MW0102A,B
27MW1002A,B
27MW2136A,B
27MW0107A,B
27MW1003A
27MW0028B
27MW1004A,B
Intersection with C-C'
27MW1005A,B
27MW0601A,B,C,D,E
Intersection with F-F'
27MW0027
69MW1709A,B
(CS-23 Location)
69DP1723
69MW1704A
Intersection with G-G'
(CS-23 Location)
69MW1701A
(CS-23 Location)

0601E NS
0601D NS
0601C ND(2008)
0601B BRL(2008)
0601A ND

0102B ND (2008)
1002B 1.2
0102A 1.3
1002A 1.7

0107B ND (2008)
2136B 4.4
2136A 10.2
0028B 20
1003A 19.9
0107A 4.3

1005B BRL
1005A 3.3

B BRL
NS B
B ND
B BRL
A BRL
A NS
12.0 A
A 5.7
6.2
10
5
ND B
3.0 A
1.3
4.9 B
ND
BRL
1.0
BRL
1.2
18
19
ND
ND
6.5 A

Data Source: AFCEE, September 2011, MMR-AFCEE Data Warehouse

Legend

- Monitoring Well
- A Well Screen ID
- Water Table
- BRL Below Reporting Limit
- NS Not Sampled
- ND Nondetect
- Bedrock
- 6.3 TCE Data (µg/L) Collected in 2011 Unless Otherwise Noted
- —5— 2011 TCE Isoconcentration Contour (MCL = 5 µg/L) (Dashed Where Inferred)

V: 60
H: 622
0 Feet

FIGURE 3

LF-1/CS-23 TCE CROSS-SECTION E-E'

AFCEE - Massachusetts Military Reservation

27 September 2012 Technical Update Meeting

CH2MHILL

CH2MHILL	PROJECT NOTE	TASK ORDER 0337
		PROJECT NO. 437075
AFCEC **SPEIM/LTM** **Otis ANG Base, Massachusetts** **4P08 FA8903-08-D-8769-0337**	**DOCUMENT CONTROL NUMBER:** **437075-SPEIM-LF1/CS23-PRJNOT-002** **CDRL B010**	PAGE 1 OF 5

Confirmation Of:	Date Held: 27 September 2012
☒ Meeting	Location: IRP Conference Room
☐ Change Notice	Date Issued: 14 January 2013
☐ General Project Note	Recorded By: Jason Dalrymple
Subject: **LF-1/CS-23 2012 ANNUAL SPEIM DATA PRESENTATION** *EPA#: 16 - OU 01D - LANDFILL-1 GW PLUME; 25 - CHEMICAL SPILL-23*	Issued By: Nigel Tindall CH2M HILL PROJECT MANAGER

ITEM	REMARKS
1.0	**INTRODUCTION** This project note documents the Landfill-1/Chemical Spill-23 (LF-1/CS-23) 2012 annual data presentation, which included data collected for the LF-1/CS-23 System Performance and Ecological Impact Monitoring (SPEIM) programs between January 2011 and July 2012. The data presented included results from the following events: • Annual groundwater sampling event (May-July 2012); • Quarterly and semiannual extraction well sampling events; • Monthly treatment plant influent data; and • Monthly extraction well flow rates. These data were presented to the regulatory agencies during the 27 September 2012 Technical Update meeting. The handouts for the presentation included eight figures and presentation text slides. The data presentation is included as **Attachment A**.
2.0	**BACKGROUND** The source of the LF-1 groundwater plume is the former base landfill that was closed in 1995. Three cells of the landfill were capped at that time and three older cells, known as the Northwest Operable Unit (NWOU), were left uncapped. The LF-1 plume extends from the landfill to approximately 18,000 feet to the west-southwest where the northern lobe discharges to Red Brook Harbor and the southern lobe discharges to Squeteague Harbor (Figure 1 of **Attachment A**). The plume has a maximum width of approximately 4,500 feet and a maximum thickness of approximately 110 feet. The contaminants of concern (COCs) for the LF-1 plume include tetrachloroethene (PCE), trichloroethene (TCE), carbon tetrachloride **(**CCl_4), ethylene dibromide (EDB), 1,1,2,2-tetrachloroethane (TeCA), 1,4-dichlorobenzene (DCB), vinyl chloride (VC), and manganese (Mn). The LF-1 plume is comprised of three chemically-distinct areas referred to as the northern plume lobe, the central plume lobe, and the southern plume lobe. The northern lobe is predominantly comprised of TCE with a minor component of TeCA; the central plume lobe is predominantly comprised of PCE; and the southern lobe by a mixture of PCE, TCE, CCl_4, and VC. EDB, 1,4-DCB, and Mn are less prevalent COCs that are detected in limited areas within the southern plume lobe.

Distribution: AFCEC: Jon Davis, Rose Forbes, Admin. Record; EPA: Bob Lim; MassDEP: Len Pinaud, Elliott Jacobs; CH2M HILL: Nigel Tindall, Jason Dalrymple, Doc. Control

ITEM	REMARKS
	The CS-23 plume is detached from its source area, which remains unidentified. The CS-23 plume is approximately 5,600 feet long, with a maximum width of approximately 950 feet, and a maximum thickness of approximately 100 feet. The CS-23 COCs are TCE and CCl_4. The CS-23 plume is defined by Maximum Contaminant Level (MCL) exceedances of TCE; CCl_4 has not been detected at concentrations above the MCL in the CS-23 monitoring network since February 2005. The current LF-1/CS-23 remedial system is comprised of six LF-1 extraction wells, one LF-1 reinjection well, two CS-23 extraction wells, and two LF-1/CS-23 infiltration trenches. The remedial system is operating at 2012 Scenario 01 flow rates with 595 gallons per minute (gpm) being treated at the LF-1 treatment plant, and 1,300 gpm (600 gpm for LF-1, 700 gpm for CS-23) being treated through the LF-1/CS-23 treatment train at the Hunter Avenue Treatment Facility (HATF). Further details regarding the LF-1/CS-23 treatment systems are presented in the 2012 Operations and Maintenance (O&M) Plan (AFCEE 2012a), available upon request from the Air Force Civil Engineer Center (AFCEC). The SPEIM program was developed to monitor plume changes and to ensure the effective operation of the groundwater remediation system; monitoring networks are also evaluated and optimized through the SPEIM program. The current approved LF-1 SPEIM network, including the analytical scope and methods, is presented in the *Comprehensive Long Term Monitoring Plan (CLTMP)*, which is available upon request from the AFCEC. Note that all the analytical data collected in 2011 for the LF-1/CS-23 SPEIM and long term monitoring (LTM) programs were included in the *LF-1/CS-23 2011 Summary Letter Report* (AFCEE 2012b), and all the analytical data collected in 2012 will be included in the *LF-1/CS-23 2012 Summary Letter Report*, which is scheduled for submittal in March 2013.
3.0	**RESULTS** Analytical results were presented for selected monitoring wells in the LF-1 and CS-23 plumes using concentration trend plots. In addition, an overview of remedial system operations was presented by providing extraction well and treatment plant influent concentrations, mass removal calculations, extraction well flow rates, and treatment plant electrical usage and related air emissions estimates (**Attachment A**). Bourne upgradient monitoring results, landfill vapor probe monitoring results and a monitored natural attenuation evaluation were also presented (**Attachment A**).
4.0	**CONCLUSIONS** • Long term concentration trends at LF-1 and CS-23 monitoring wells are generally consistent with the conceptual site model for the plumes. • Source Area: NWOU monitoring results remain consistent with historic results (all historic detections below all groundwater cleanup standards).

ITEM	REMARKS
	• Northern Lobe: Concentration trends continue to decline and data indicate that the upgradient portion of the Northern Lobe is cleaning up faster than parameter estimation (PEST[1]) model simulations predicted. • Central Lobe: COC concentrations are slightly above MCLs and are expected to decline to concentrations below MCLs within a few years based on modeling results and trend analysis. • Southern Lobe: Results indicate that reductive dechlorination is still occurring in the Southern Plume Core zone only. Plume cleanup in the portion of the Southern Lobe located west of the base boundary is occurring faster than 2007 model predictions. • Monitoring results for the Bourne Upgradient wells are consistent with historic results (no COC detections), and no methane was detected at the landfill vapor probes (consistent with historic results). • The natural attenuation processes of dilution, dispersion, and sorption continue to be observed throughout the LF-1 plume, including within the downgradient lobes. • CS-23: Declining COC concentration trends at plume boundary wells provide evidence of plume collapse. However, TCE concentrations in one deep screened downgradient monitoring well 69MW1710A (-120 feet mean sea level) increased from 4.2 micrograms per liter (µg/L) to 12 µg/L. This increase is attributed to the migration of contamination that was downgradient of the CS-23 extraction wells when they became operational. This mass is in a relatively small area since TCE concentrations in all nearby monitoring wells remain below the MCL. A preliminary Land Use Control (LUC) assessment was performed in this area which indicated that all properties downgradient and within 3,000 feet of monitoring well 69MW1710A have town of Falmouth water accounts. The plume and LUC boundary in that area will be reassessed based on the results of the next annual (2013) sampling event. • LF-1/CS-23 plume boundary and LUC area assessment: TCE was detected above the MCL in two consecutive sampling events (2008 and 2011) at downgradient monitoring well 27MW0066, which is located between the Southern and Northern lobes. As a result, 27MW0066 and five nearby monitoring wells (27MW0040Z, 27MW0054/Z, 27MW0055, and 27MW0083) were sampled in June 2012 to assess the potential extent of PCE or TCE above the MCL in that area. All results were below the MCL of 5 µg/L for PCE and TCE. Therefore, it was determined that there was no need to update the plume or LUC boundary in that area.

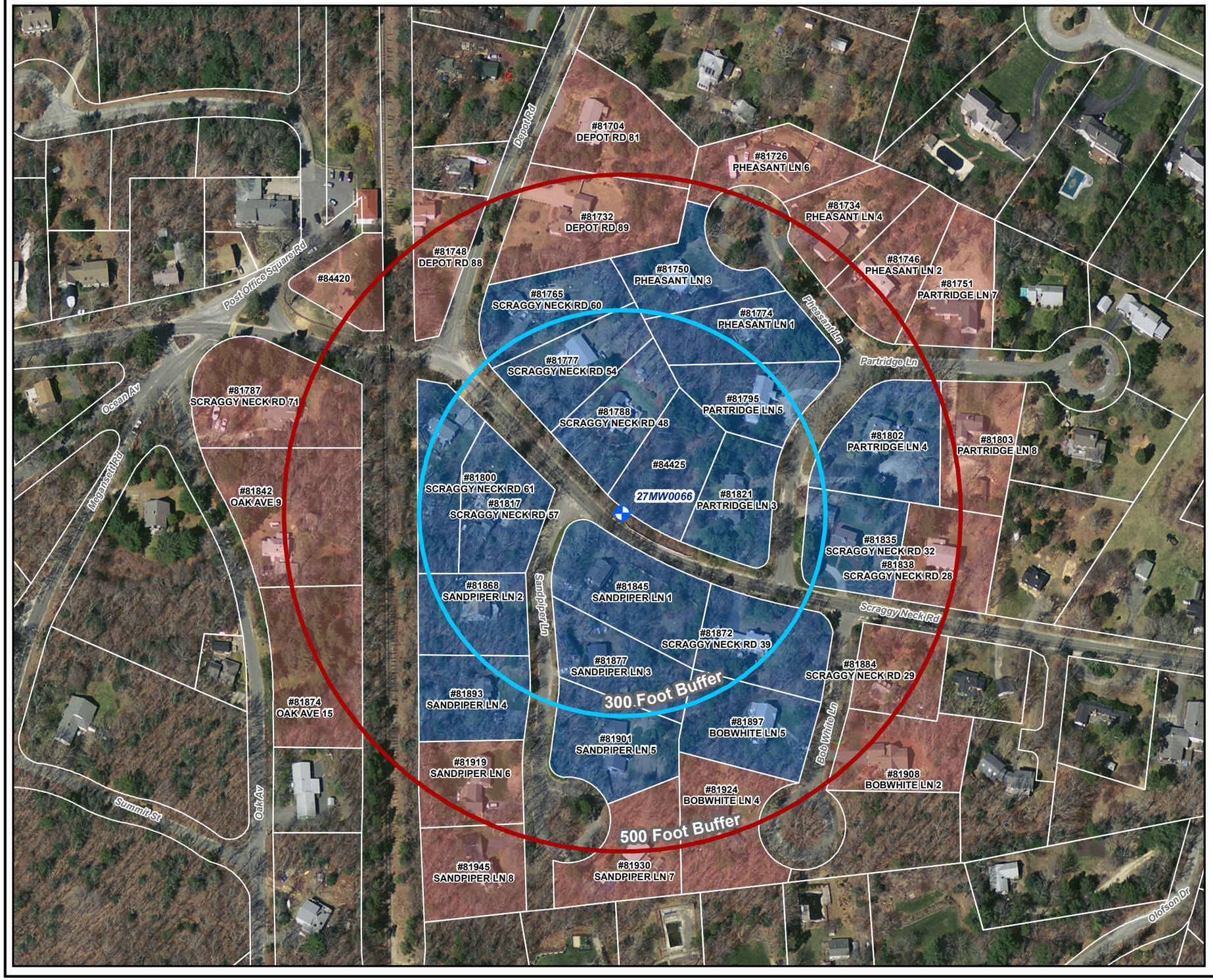
[1] AFCEE has rescinded the proposal to implement PEST-optimized flow rates for the LF-1/CS-23 remedial system as presented in the *Draft LF-1/CS-23 2011 PEST Optimization Model Setup, Procedures, and Results* project note because the regulatory agencies expressed concern regarding the long-term plume cleanup predictions generated by the LF-1/CS-23 groundwater modeling completed as part of the PEST evaluation. The 2012 monitoring data indicate that the PEST modeling predictions using the 2007 version of the plume shell over-predict both plume extent and contaminant concentrations in the short-term (five years). This effect is likely compounded in the longer-term modeling results (greater than 20 years out). As a next step, AFCEE will perform a comprehensive sampling event at LF-1/CS-23 in 2013, update the LF-1/CS-23 plume shell, and assess the performance of the remedial system using the most current monitoring data. During this modeling exercise, optimization opportunities will also be evaluated.

ITEM	REMARKS
	• Plant influent and extraction well concentrations are consistent with historic results; some COC concentrations increased slightly, possibly indicating improved system performance following implementation of PEST optimization modeling flow rates. • Groundwater data collected from monitoring wells, extraction wells, and the treatment plant influent indicate that the remedial goals of the system are being met; and plume cleanup is progressing as expected.
5.0	**RECOMMENDATIONS** AFCEC will continue with the following SPEIM activities for the upcoming year: ▪ Perform an expanded annual sampling event for a plume shell update (spring 2013), update the LF-1/CS-23 plume shells and develop a remedial system optimization approach in late spring/early summer 2013. ▪ Present the proposed remedial system approach to the regulatory agencies and document the agreed upon approach in a project note. ▪ Perform the remedial system optimization assessment of the LF-1/CS-23 remedial system in late summer/fall of 2013. ▪ Present optimization results to the regulatory agencies in the fall/winter 2013 and document results in a technical memorandum. ▪ Reassess plume/LUC boundary based on sample results from CS-23 monitoring well 69MW1710A. ▪ Complete the LUC two-year check-in with owners of non-operational private wells to confirm that the wells have not been put into service. ▪ Complete direct push boring downgradient of the NWOU and install a monitoring well based on sample results. ▪ Perform routine monthly, quarterly, and semiannual extraction well and plant sampling. ▪ Complete Post-Closure Monitoring (PCM) tasks at the landfill: o Annual landfill inspection; make associated repairs as necessary o Annual settlement survey o Annual monitoring of PCM wells o Semiannual gas vent monitoring ▪ Perform the LF-1 and CS-23 ecological monitoring: o Continue hydrologic monitoring (monthly when surface water bodies are not frozen) o Perform vegetation survey and wildlife survey at the wetlands and reference locations (spring 2013)

ITEM	REMARKS
6.0	**REGULATOR COMMENTS/RESOLUTION** At the 27 September 2012 Technical Update meeting, the regulatory agencies expressed concern regarding the previous (2008 and 2011) TCE MCL exceedances detected at monitoring well 27MW0066, and requested that the sampling frequency at that monitoring well be increased from triennial to annual (AFCEC sampled 27MW0066 and five other monitoring wells in June 2012 and all COC concentrations were below the MCL). AFCEC concurred with that request, and offered to perform a preliminary LUC assessment in that area. Subsequently, AFCEC contacted the Town of Bourne and determined that all private parcels within 500 feet of monitoring well 27MW0066 had water accounts with the Town of Bourne. That information was e-mailed to the regulatory agencies on 03 October 2012 (Attachment B) with a figure depicting the private parcels in that area (Figure 1). There were no additional comments from the regulatory agencies in response to that e-mail. The regulatory agencies did not have any further comments on Figure 1 or the annual data presentation at the follow-up meeting on 28 November 2012.
7.0	**REFERENCES** AFCEE (Air Force Center for Engineering and the Environment). 2012a (June). *June 2012 Operations and Maintenance Plan for Groundwater Extraction and Treatment Systems and Wind Turbine.* 425445-O&M-MULTIPLE-OMPLN-001. Prepared by Bhate Environmental Associates and CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis ANG Base, MA. _____. 2012b (March). *Landfill-1/Chemical Spill-23 2011 Summary Letter Report.* 420005-SPEIM-LF1/CS23-SLR-001. Prepared by CH2M HILL for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.
8.0	**CONCURRENCE** Concurrence with increasing the sampling frequency at 27MW0066 from triennial to annual is represented by the signatures below: 1/8/13 — EPA Representative 1/8/13 — MassDEP Representative 8 Jan 13 — AFCEC Project Manager Note: The parties involved will retain the ability to modify the SPEIM network based on mutually agreeable technical justifications.

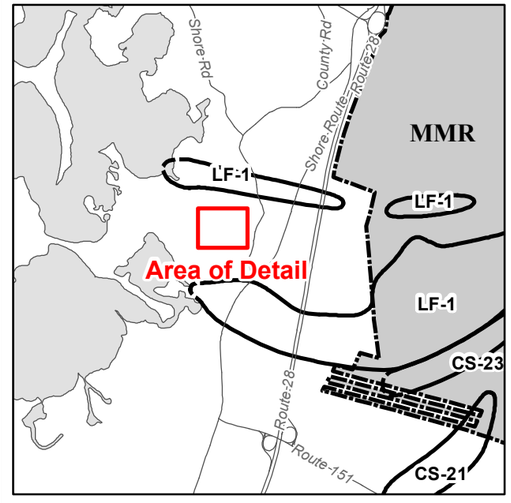
Attachments:
Figure 1. 27MW0066 and Town of Bourne Parcels within 300' and 500'
Attachment A: LF-1/CS-23 2012 Annual SPEIM Data Presentation, 27 September 2012 Technical Update Meeting
Attachment B: AFCEC E-mail to Regulatory Agencies Regarding 27MW0066

Path: Y:\Figures\SPEIM\LF1\2012\TechUpdate\November\GIS\Arcmap\LF1_12NovTechUpdate_Fig01.mxd Date: 11/16/2012 Time: 11:06:36 AM User: 1272479611E



Legend

- Massachusetts Military Reservation Boundary
- Plume Boundary (Dashed Where Inferred)
- Monitoring Well
- 300' Buffer from 27MW0066
- 500' Buffer from 27MW0066
- Parcels Within 300' Buffer from 27MW0066
- Parcels Within 500' Buffer from 27MW0066



N

0 70 140
Feet

Data Source: AFCEC, MMR-AFCEC Data Warehouse
MMR Boundary from Massachusetts Air National Guard 2011
2009 Aerial Photography from MassGIS

FIGURE 1

27MW0066 AND TOWN OF BOURNE PARCELS WITHIN 300' AND 500'

AFCEC - Massachusetts Military Reservation

28 November 2012 Technical Update Meeting

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ATTACHMENT A

LF-1/CS-23 2012 Annual SPEIM Data Presentation, 27 September 2012 Technical Update Meeting

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Overview

- Groundwater Sampling Results for May-July 2012 Annual Sample Event (locations shown on Figure 1)
  - 39 LF-1 monitoring wells sampled for VOCs
  - Six CS-23 monitoring wells sampled for VOCs
  - Six LF-1 extraction wells sampled for VOCs; two LF-1 extraction wells sampled for EDB
  - Two CS-23 extraction wells sampled for VOCs
- BUG monitoring and landfill gas probe monitoring results
- MNA Discussion
- Plume Boundary and LUC Area Assessment
- ETI System Performance Monitoring (2011)
- Conclusions and Recommendations
- Sampling Deviations: 27MW0056 (N Lobe) could not be sampled (access); 27MW0048 sampled as a substitute location

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Review of BUG and Landfill Gas Probe Monitoring Results

- August 2011 Bourne Upgradient Monitoring Results (Figure 1)
  - Chloroform and/or dichlorodifluoromethane detections consistent with historical data
  - COCs were ND at all wells
- Landfill gas probe monitoring
  - No methane detections in July 2011, January 2012, or July 2012
- Review Figures 1 through 8

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Monitoring Highlights

- Source Area (Figure 2)
  - TCE concentration at 27MW2071 remained consistent; 3.5 µg/L (June 2011) and 4.1 µg/L (June 2012)
  - NWOU results remain consistent with historic results and CSM
- Northern Lobe (Figure 3)
  - TCE concentration trends continue to decline
  - Shallow lobe upgradient of 27EW0005 cleaning up faster than PEST model simulations predicted
  - TCE concentrations in deep downgradient lobe are declining
  - SPEIM data supports plume boundary separation downgradient of 27EW0005, consistent with CSM
- Upgradient Central Lobe (Figure 4)
  - COC concentrations in this area are barely above MCLs; expected to decline to concentrations below MCLs soon based on modeling and trend analysis
  - Results consistent with CSM

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Monitoring Highlights

- Upgradient Southern Lobe (Figure 5)
  - Generally declining trends
  - TCE concentration increased at 27MW2135A from 67 µg/L (June 2011) to 88 µg/L (June 2012), leading edge of TCE hot spot (previously defined by TCE concentrations at 27MW0031A)
  - TCE concentrations increased to ~ 20 µg/L at 27MW0028B and 27MW1003A
  - Continued evidence of reductive dechlorination due to the presence of daughter products, consistent with CSM
- Downgradient Southern Lobe (Figure 6)
  - Declining trends at plume boundary and leading edge wells provide evidence of plume collapse
  - One TCE MCL exceedance in the southern lobe west of the base boundary (6 µg/L at 27MW0052)
  - Three monitoring wells with PCE above the MCL in this area (concentrations between 5.6 and 7.3 µg/L)
  - Plume cleanup occurring faster than model predictions from the 2007 LF-1/CS-23 Plume Update Technical Memorandum

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Monitoring Highlights

- CS-23 (Figure 7)
  - Declining trends at plume boundary wells provide evidence of plume collapse, consistent with CSM
  - TCE concentration in deep monitoring well 69MW1710A increased from 4.2 µg/L (June 2012) to 12 µg/L (May 2012)
    - This first time MCL exceedance is not unexpected, some mass was downgradient of CS-23 EW's when they became operational
    - Concentrations in the shallow screen (69MW1710B) and nearby monitoring wells (68MW1712A,B and 69MW1713A,B) remain below the MCL
  - Data gap in upgradient portion of plume (due to vertical collapse of plume) was investigated with direct push rig, location of trailing edge of plume defined (see CS-23 Direct Push Technical Update Meeting Presentation)
- LF-1/CS-23 Extraction Well Concentrations (Figure 8)
  - Consistent COC trends at the extraction wells (including EDB at 27EW0002 and 27EW0006)
  - In core of plume (27EW0001, 27EW0002, 27EW0003) parent product (PCE) influent concentrations declining, daughter product (TCE, VC) influent concentrations increasing

LF-1/CS-23 2012 Annual SPEIM Data Presentation
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MNA Discussion

- Natural attenuation processes include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater (EPA, OSWER Directive 9200.4-17P).
- The most common of those in-situ processes observed at LF-1 include biodegradation, dispersion, dilution, and sorption.
- Biodegradation (i.e., reductive dechlorination) is known to occur within the upgradient, southern plume core zone of LF-1 (2000 through 2004 SPEIM reports).
- The differences between the geochemistry of the southern plume core zone and all other areas of LF-1 are consistent with the evidence that reductive dechlorination is occurring in the southern plume core zone.
  - highly chlorinated organic compounds (PCE and CCl_4) are sequentially converted to less chlorinated compounds (e.g., TCE, cis-1,2-DCE, VC, or chloroform) under reducing conditions in the southern plume core zone.

MNA Discussion

- Continued evidence of reductive dechlorination in most recent data collected within the southern plume core zone seen in Figure 5.
- Historic southern plume core zone data: higher concentrations of cis-1,2-DCE and VC than elsewhere, low DO, presence of methane, etc.
- Consistent chemical signature (lack of cis-1,2-DCE, VC) in downgradient portion of Southern Lobe and within the Northern Lobe and central lobe indicate that biodegradation is not occurring elsewhere, consistent with CSM.
- Decreasing concentrations along plume boundaries and in the downgradient portion of the Northern and Southern lobes is continued evidence of dilution, dispersion, and sorption.

LF-1/CS-23 Plume Boundary and LUC Area Assessment

- TCE detected above the MCL for 2 sampling rounds at 27MW0066 (5.4 µg/L in 2008, 5.6 µg/L in 2011)
- Long history of low-level PCE and TCE detections in this well, and at other monitoring wells in this area (with sporadic MCL exceedances)
- In June 2012, sampled 27MW0066 and a few surrounding wells (27MW0040Z, 27MW0054/Z, 27MW0055, 27MW0083) to assess potential extent of PCE or TCE above MCL in that area; all PCE and TCE results were below the MCL of 5 µg/L
- No need to update plume boundary or LUC boundary in this area
- CS-23 monitoring well 69MW1710A TCE detection above the MCL prompted a prelim assessment of properties downgradient of that well
- All properties within 3,000 ft (downgradient) of 69MW1710A have Falmouth water accounts
- The closest residential property is ~ 1,000 ft downgradient
- Reassess plume/LUC boundary based on results of next annual sample event (June 2013)

LF-1 Treatment Plant and Hunter Avenue Treatment Facility Flow Rates

	LF-1 Treatment Plant					Hunter Avenue Treatment Facility				
	27EW0001 (gpm)	27EW0003 (gpm)	27EW0004 (gpm)	27EW0005 (gpm)	LF-1 total	27EW0002 (gpm)	27EW0006 (gpm)	27EW0007 (gpm)	27EW0008 (gpm)	HATF Total
01 January 2011 - 15 March 2011 Average Pumping Rate (gpm)	128	139	69	202	538	292	338	338	339	1307
2008 Scenario 02 Flow Rate (gpm)	150	165	70	210	595	300	350	350	350	1350
Percent Design	85	84	99	96	90	97	97	97	97	97
16 March 2011 - 31 December 2011 Average Pumping Rate (gpm)	112	111	98	127	450	181	491	143	167	980
2011 Scenario 01 Flow Rate (gpm)	127	126	129	143	525	198	538	151	184	1071
Percent Design	88	88	76	89	86	92	91	95	91	91

LF-1 Treatment Plant Influent COC Concentrations

		Laboratory Analyses					
Location	Date	PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
27PLT01001	1/25/2011	2.5	3.3	BRL	BRL	BRL	1.1
27PLT01001	2/25/2011	3.4	3.7	ND	BRL	BRL	1.1
27PLT01001	3/28/2011	4.3	4.3	BRL	ND	BRL	1.2
27PLT01001	4/25/2011	3.2	3.3	BRL	BRL	BRL	1.2
27PLT01001	5/25/2011	3.7	3.1	BRL	BRL	ND	1.3
27PLT01001	6/27/2011	4	3.2	BRL	BRL	ND	1.3
27PLT01001	7/28/2011	4.5	3.1	BRL	BRL	BRL	1.4
27PLT01001	8/25/2011	3.3	3.0	BRL	BRL	BRL	1.3
27PLT01001	9/27/2011	3.9	3.4	BRL	BRL	BRL	1.4
27PLT01001	11/1/2011	3.6	3.1	BRL	BRL	ND	1.4
27PLT01001	11/28/2011	3.3	3.0	BRL	BRL	BRL	1.3
27PLT01001	12/27/2011	3.5	3.2	BRL	ND	ND	1.3

Hunter Avenue Treatment Facility LF-1/CS-23 Influent COC Concentrations

		Laboratory Analyses					
Location	Date	PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
85PLT01004	1/31/2011	3.1	4.1	ND	1.8	ND	BRL
85PLT01004	2/25/2011	3.6	4.4	ND	2	ND	BRL
85PLT01004	4/1/2011	3.8	3.7	ND	2.6	ND	ND
85PLT01004	4/29/2011	4.2	3.7	ND	2.7	ND	BRL
85PLT01004	5/31/2011	3.6	3.9	ND	2.5	ND	ND
85PLT01004	6/27/2011	4.1	4.3	ND	2.3	ND	ND
85PLT01004	7/27/2011	4.5	3.9	ND	2.2	ND	ND
85PLT01004	8/25/2011	3.7	3.9	ND	2.3	ND	ND
85PLT01004	9/27/2011	4.3	4.5	ND	2.6	ND	ND
85PLT01004	11/1/2011	3.1	4	ND	2.2	ND	ND
85PLT01004	12/1/2011	3.6	4.1	ND	2.1	ND	ND
85PLT01004	12/28/2011	3.7	4.1	ND	1.7	ND	ND

LF-1/CS-23 Mass Removal (lbs)

LF-1 Treatment Plant Mass Removal

	PCE	TCE	VC	CCl_4	1,1,2,2-TeCA	1,4-DCB	Total COC Mass Removed
Mass Removed During Period (January - December 2011)	7.3	6.8	1.2	0.7	0.3	2.6	18.9
Mass Removed Since Startup (August 1999 - December 2011)	160.2	164.0	8.1	50.0	9.2	16.0	407.5

HATF LF-1/CS-23 Mass Removal

	PCE	TCE	VC	CCl_4	1,1,2,2-TeCA	1,4-DCB	Total COC Mass Removed
Mass Removed During Period (January - December 2011)	17.0	18.5	0.0	10.3	0.0	0.4	46.2
Mass Removed Since Startup (December 2006 - December 2011)	107.1	101.6	0.0	49.9	0.1	2.7	261.4

LF-1/CS-23 2012 Annual SPEIM Data Presentation
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LF-1 Remedial System Operation

- LF-1 Treatment Plant (January – December 2011):
  - Approximately 246 million gallons of groundwater water treated.
  - Three carbon exchanges (March, July, October 2011).
  - VA cemetery used approximately 50 gpm of treated water in 2011 for irrigation purposes.
  - 2007 modeling indicated up to 135 gpm could be used by the VA without affecting plume capture.
- LF-1/CS-23 GAC trains at HATF (January – December 2011):
  - Approximately 550 million gallons of groundwater water treated.
  - 10 carbon exchanges (January, March, April, May, June, August, September, October, and twice in December 2011).

LF-1 Treatment Plant Electrical Consumption and Associated Air Emissions

		1/1/2011 to 12/31/2011	System Startup (8/1999) to 12/31/2011
Volume of Groundwater Treated (million gallons)		246	3,799
Groundwater COC Mass Removal (pounds)		19	408
Electrical Usage (MWh)		561	7,773
Estimated Air Emissions[1] (based on electrical usage)	CO_2 (tons)	367	6,259
	NOx (lbs)	791	10,013
	PM-10 (lbs)	45	371
	SO_2 (lbs)	2,109	11,949
	VOCs (lbs)	28	444
Estimated Reduction in Air Emissions due to Green Power Purchases[2]	CO_2 (tons)	184	784
	NOx (lbs)	396	1,489
	PM-10 (lbs)	23	74
	SO_2 (lbs)	1,055	3,128
	VOCs (lbs)	14	57
Estimated Reduction in Air Emissions due to MMR Wind Turbine Operation[3]	CO_2 (tons)	173	232
	NOx (lbs)	373	500
	PM-10 (lbs)	21	29
	SO_2 (lbs)	994	1333
	VOCs (lbs)	13	17
Estimated Total Air Emissions with Consideration of Green Power Purchases and MMR Wind Turbine Operation	CO_2 (tons)	11	5,243
	NOx (lbs)	23	8,024
	PM-10 (lbs)	1.3	268
	SO_2 (lbs)	60	7,488
	VOCs (lbs)	0.8	369

Notes:
1) The estimated air emissions presented in this table are based on the assumption that until 4/30/2009, the power used to operate the MMR remedial systems was provided by the Canal Power Plant in Sandwich, MA. This power plant primarily produced electricity generated by the combustion of fuel oil and has been off-line since 5/1/2009. Starting on 5/1/2009, air emissions are based on electricity generated by the average mix of power sources in Massachusetts. Air emissions were calculated using MMR utility data from AFCEE's Metrix 4 Utility Accounting Software (http://www.abcassessory.com/metrix4.php) and factors obtained from the following websites:
http://www.cogentwork.com/electricpowerplant.html
http://www.methanol.org/Energy/Technical-Publications/Emissions%20Factors%202004.pdf
2) Emissions offset by purchases of electricity from renewable sources beginning 7/1/2006.
3) Emissions offset by operation of AFCEE-owned wind turbine beginning on 12/2/2008 (Wind I) and 11/1/2011 (Wind II).

LF-1/CS-23 HATF Electrical Consumption and Associated Air Emissions

		1/1/2011 to 12/31/2011	System Startup (12/2006) to 12/31/2011
Volume of Groundwater Treated (million gallons)		550	3,135
Groundwater COC Mass Removal (pounds)		46	261
Electrical Usage (MWh)		1,054	7,373
Estimated Air Emissions[1] (based on electrical usage)	CO_2 (tons)	690	5,560
	NOx (lbs)	1,486	9,803
	PM-10 (lbs)	85	434
	SO_2 (lbs)	3,963	16,906
	VOCs (lbs)	52	402
Estimated Reduction in Air Emissions due to Green Power Purchases[2]	CO_2 (tons)	345	1,484
	NOx (lbs)	743	2,958
	PM-10 (lbs)	43	155
	SO_2 (lbs)	1,982	6,879
	VOCs (lbs)	26	110
Estimated Reduction in Air Emissions due to MMR Wind Turbine Operation[3]	CO_2 (tons)	325	482
	NOx (lbs)	701	1038
	PM-10 (lbs)	40	59
	SO_2 (lbs)	1,868	2769
	VOCs (lbs)	24	36
Estimated Total Air Emissions with Consideration of Green Power Purchases and MMR Wind Turbine Operation	CO_2 (tons)	20	3,594
	NOx (lbs)	43	5,806
	PM-10 (lbs)	2.4	219
	SO_2 (lbs)	113	7,257
	VOCs (lbs)	1.5	256

Notes:
1) The estimated air emissions presented in this table are based on the assumption that until 4/30/2009, the power used to operate the MMR remedial systems was provided by the Canal Power Plant in Sandwich, MA. This power plant primarily produced electricity generated by the combustion of fuel oil and has been off-line since 5/1/2009. Starting on 5/1/2009, air emissions are based on electricity generated by the average mix of power sources in Massachusetts. Air emissions were calculated using MMR utility data from AFCEE's Metrix 4 Utility Accounting Software (http://www.abcassessory.com/metrix4.php) and and emission factors obtained from the following websites:
http://www.cogentwork.com/electricpowerplant.html
http://www.methanol.org/Energy/Technical-Publications/Emissions%20Factors%202004.pdf
2) Emissions offset by purchases of electricity from renewable sources beginning 7/1/2006.
3) Emissions offset by operation of AFCEE-owned wind turbine beginning on 12/2/2008 (Wind I) and 11/1/2011 (Wind II).

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

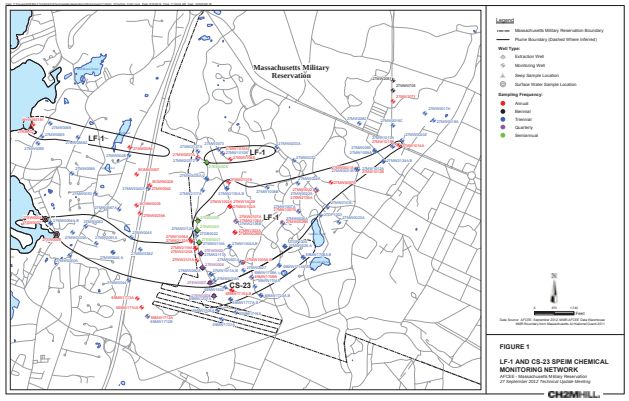
Conclusions

- Long term concentration trends for LF-1 and CS-23 monitoring wells are generally consistent with the CSM for the plumes. COC concentrations are declining faster than model predictions in some areas (upgradient N. Lobe, downgradient S. Lobe, upgradient portion of main plume).
- There is continued evidence of plume separation at the Northern Lobe downgradient of 27EW0005.
- Results indicate continued evidence of reductive dechlorination in the Southern Plume Core zone only. The natural attenuation processes of dilution, dispersion, and sorption continue to be observed within downgradient lobes.
- Influent and extraction well concentrations were consistent with previous results.
- Groundwater, extraction well, and influent data indicate that the remedial goals of the system are being met; and plume cleanup is progressing as expected.

LF-1/CS-23 2012 Annual SPEIM Data Presentation
27 September 2012 Technical Update Meeting

Recommendations and Path Forward

- AFCEE will continue with all planned SPEIM and LUC activities for the upcoming year:
  - Perform annual SPEIM sampling event (June 2013)
  - Reassess plume/LUC boundary based on results from CS-23 monitoring well 69MW1710A
  - Perform routine monthly, quarterly, and semiannual extraction well and plant sampling
  - Perform the LF-1 and CS-23 ecological monitoring:
    - Continue hydrologic monitoring
    - Verify that a contingency survey is not required
  - 2-Year check-in with owners of non-operational private wells to confirm that the wells have not been put into service



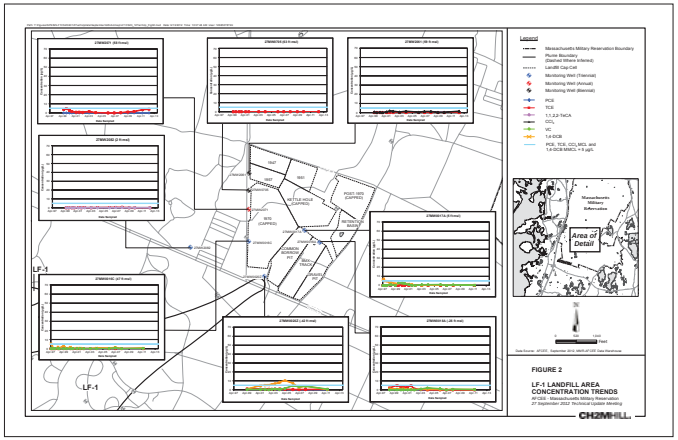


FIGURE 2

LF-1 LANDFILL AREA CONCENTRATION TRENDS

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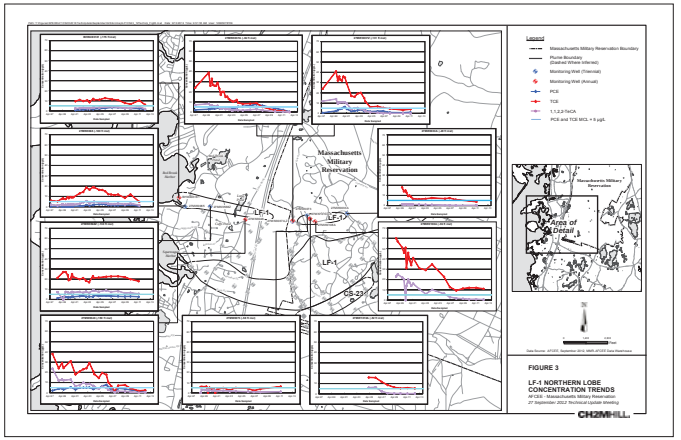


FIGURE 3

LF-1 NORTHERN LOBE CONCENTRATION TRENDS

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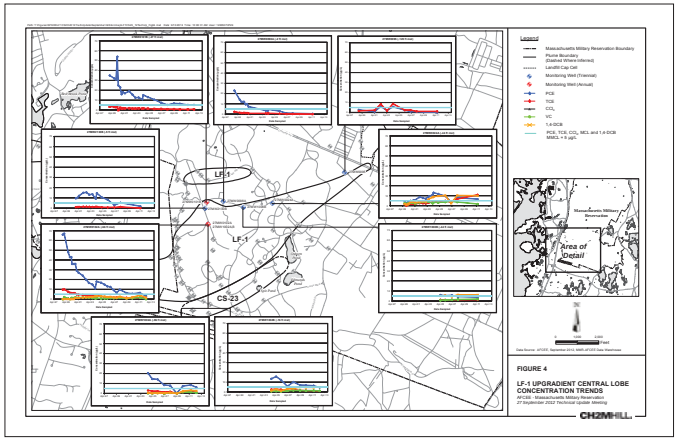


FIGURE 4

LF-1 UPGRADIENT CENTRAL LOBE CONCENTRATION TRENDS

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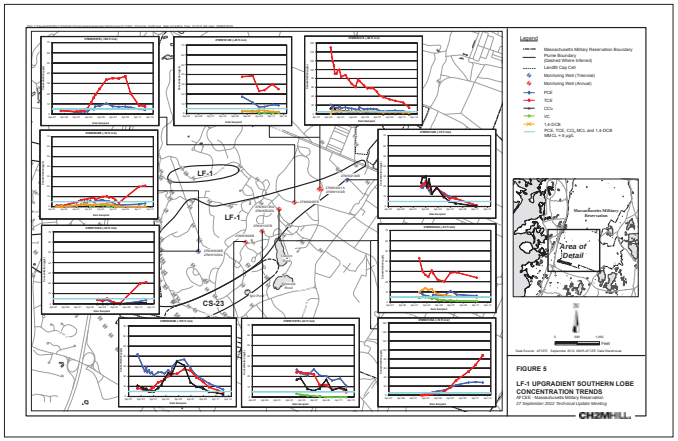


FIGURE 5

LF-1 UPGRADIENT SOUTHERN LOBE CONCENTRATION TRENDS

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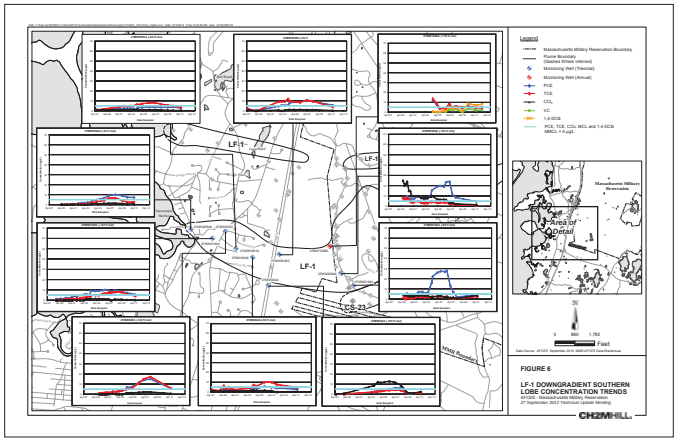


FIGURE 6

LF-1 DOWNGRADIENT SOUTHERN LOBE CONCENTRATION TRENDS

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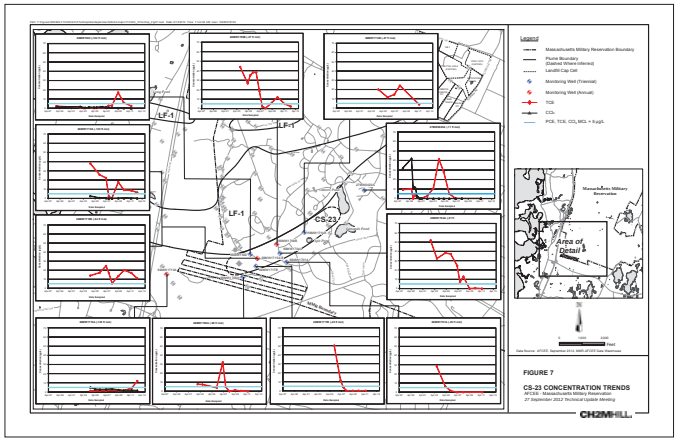


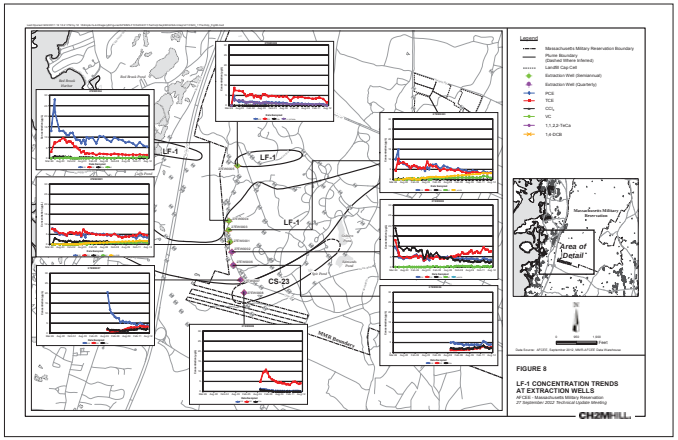
FIGURE 7

CS-23 CONCENTRATION TRENDS

AFCEE - Massachusetts Military Reservation

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CH2MHILL



Legend

- Massachusetts Military Reservation Boundary
- Plume Boundary (Dashed Where Inferred)
- Landfill Cap Cell
- Extraction Well (Semiannual)
- Extraction Well (Quarterly)
- PCE
- TCE
- CCl_4
- VC
- 1,1,2,2-TeCa
- 1,4-DCB

Data Source: AFCEE, September 2012; NAD 1983 UTM Zone 19 Meters

FIGURE 8

LF-1 CONCENTRATION TRENDS AT EXTRACTION WELLS

IR-02 - Massachusetts Military Reservation
27 September 2012 Technical Update Meeting

CH2MHILL

ATTACHMENT B

AFCEC E-mail to Regulatory Agencies Regarding 27MW0066

From:	KARSON, DOUGLAS C GS-11 USAF AETC EXE
To:	"Donovan, Ellie (DEP)"; "Lynne Jennings"; "lim.robert@epamail.epa.gov"; "Jeanethe Falvey"; "leonard.pinaud@state.ma.us"; "elliot.jacobs@state.ma.us"
Cc:	DAVIS, JONATHAN S GS-14 USAF DoD AFCEE/EXE/MMR; FORBES, ROSE H GS-13 USAF AETC EXE
Subject:	Follow-up Research near 27MW0066
Date:	Wednesday, October 03, 2012 4:08:00 PM
Attachments:	LUC_LF1_27MW0066.pdf 27MW0066_all_parcels.xlsx

As we discussed last week, I provided the attached list/map of 38 properties within 500 feet of LF-1 monitoring well 27MW0066 to the Bourne Water district. They checked the properties and responded that all properties on the list have an account with the Bourne Water District, with the exception of 15 Oak Avenue (81874) which is a vacant lot.

Another lot without a structure (on Post Office Square Road, #84420) has no house but there is a playground and grassy area so they must have an irrigation/water supply available at that location.

Please let me know if you have any questions.

//SIGNED//
Douglas C. Karson, GS-11, DAF
Community Involvement Lead
Air Force Center for Engineering and the Environment
Massachusetts Military Reservation
DSN 557-4678, x2; Comm (508) 968-4678, x2
Cell: (508) 566-6628

ATTACHMENT E

Direct Push Drilling Results and Well Construction Diagrams

Direct Push Drilling Results

27MW2062

69DP1722

69DP1723

69DP1724

Well Construction Diagrams

27MW2062

69MW1722A

69MW1723A

Direct Push Vertical Profile Results
LF-1 NWOU Direct Push Drilling Program
Direct Push Location 27MW2062

Sample Interval	Sample Date	Depth TOS (ft bgs)	Depth BOS (ft bgs)	Mid-Depth (ft bgs)	Mid-Depth (ft msl)	PCE (µg/L) MCL = 5	TCE (µg/L) MCL = 5	VC (µg/L) MCL = 2	CCl_4 (µg/L) MCL = 5	1,1,2,2-TeCA (µg/L) GW-1 = 2	1,4-DCB (µg/L) MMCL = 5
A	11/20/2012	85	90	87.5	55.5	ND	ND	ND	ND	ND	ND
B	11/26/2012	95	100	97.5	45.5	ND	ND	ND	ND	ND	ND
C	11/26/2012	105	110	107.5	35.5	ND	ND	ND	ND	ND	ND

Data Source: AFCEC, March 2013, MMR-AFCEC Data Warehouse

Key:

BOS = bottom of screen
BRL = below reporting limit (1 µg/L)
CCl_4 = carbon tetrachloride
DCB = dichlorobenzene
ft bgs = feet below ground surface
ft msl = feet mean sea level
GW-1 = MCP Method 1 Groundwater-1 standard
MCL = Maximum Contaminant Level
MCP = Massachusetts Contingency Plan
MMCL = Massachusetts MCL
ND = not detected
PCE = tetrachloroethene
TCE = trichloroethene
TeCA = tetrachloroethane
TOS = top of screen
VC = vinyl chloride
µg/L = micrograms per liter

Notes:

Analytical sampling methods for the specified parameters: VOC (SW846 8260B).
Drilling Start Date - 11/20/12, Drilling Finish Date - 11/26/12.
Approximate ground level elevation 143 ft msl.
Drilling refusal was obtained at ~110 ft bgs (~ 33 ft msl).
Approximate depth to water = 85 ft bgs.

Direct Push Vertical Profile Results
CS-23 Data Gap Direct Push Drilling Program
Direct Push Location 69DP1722

Sample Interval	Sample Date	Depth TOS (ft bgs)	Depth BOS (ft bgs)	Mid-Depth (ft bgs)	Mid-Depth (ft msl)	TCE (µg/L) MCL = 5	CCl_4 (µg/L) MCL = 5	PCE (µg/L) MCL = 5
A	6/11/2012	85	90	87.5	15.5	ND	ND	ND
B	6/11/2012	95	100	97.5	5.5	ND	ND	ND
C	6/11/2012	105	110	107.5	-4.5	ND	ND	ND
D	6/11/2012	115	120	117.5	-14.5	BRL	ND	ND
E	6/12/2012	125	130	127.5	-24.5	BRL	ND	ND
F	6/12/2012	135	140	137.5	-34.5	BRL	ND	BRL
G	6/12/2012	145	150	147.5	-44.5	1.0	BRL	BRL
H	6/12/2012	155	160	157.5	-54.5	**6.8**	3.1	1.6
I	6/12/2012	165	170	167.5	-64.5	**9.3**	3.4	1.7
J	6/13/2012	175	180	177.5	-74.5	**7.4**	1.0	BRL
K	6/13/2012	185	190	187.5	-84.5	**7.0**	BRL	BRL
L	6/13/2012	195	200	197.5	-94.5	**12.0**	1.7	1.1
M	6/14/2012	205	210	207.5	-104.5	BRL	ND	ND

Data Source: AFCEC, March 2013, MMR-AFCEC Data Warehouse

Key:

BOS = bottom of screen
BRL = below reporting limit (1 µg/L)
CCl_4 = carbon tetrachloride
ft bgs = feet below ground surface
ft msl = feet mean sea level
MCL = Maximum Contaminant Level
ND = not detected
NS = not sampled
PCE = tetrachloroethene
TCE = trichloroethene
TOS = top of screen
µg/L = micrograms per liter

Notes:

Analytical sampling methods for the specified parameters: VOC (SW846 8260B).
Bold values indicate an MCL exceedance.
Drilling Start Date - 06/11/12, Drilling Finish Date - 06/14/12.
Approximate ground level elevation 103 ft msl.
Drilling refusal was obtained at ~210 ft bgs (~ -107 ft msl).
Approximate depth to water = 55 ft bgs.

Direct Push Vertical Profile Results
CS-23 Data Gap Direct Push Drilling Program
Direct Push Location 69DP1723

Sample Interval	Sample Date	Depth TOS (ft bgs)	Depth BOS (ft bgs)	Mid-Depth (ft bgs)	Mid-Depth (ft msl)	TCE (µg/L) MCL = 5	CCl_4 (µg/L) MCL = 5	PCE (µg/L) MCL = 5
A	6/18/2012	120	125	122.5	1.5	ND	ND	ND
B	6/19/2012	130	135	132.5	-8.5	BRL	ND	ND
C	6/19/2012	140	145	142.5	-18.5	1	ND	ND
D	6/19/2012	150	155	152.5	-28.5	BRL	ND	ND
E	6/19/2012	160	165	162.5	-38.5	1.2	ND	ND
F	6/19/2012	170	175	172.5	-48.5	**18**	BRL	BRL
G	6/19/2012	178.5	183.5	181	-57	**19**	ND	BRL

Data Source: AFCEC, March 2013, MMR-AFCEC Data Warehouse

Key:

BOS = bottom of screen
BRL = below reporting limit (1 µg/L)
CCl_4 = carbon tetrachloride
ft bgs = feet below ground surface
ft msl = feet mean sea level
MCL = Maximum Contaminant Level
ND = not detected
NS = not sampled
PCE = tetrachloroethene
TCE = trichloroethene
TOS = top of screen
µg/L = micrograms per liter

Notes:

Analytical sampling methods for the specified parameters: VOC (SW846 8260B).
Bold values indicate an MCL exceedance.
Drilling Start Date - 06/18/12, Drilling Finish Date - 06/19/12.
Approximate ground level elevation 124 ft msl.
Drilling refusal was obtained at ~183.5 ft bgs (~ -59.5 ft msl).
Approximate depth to water = 80 ft bgs.

Direct Push Vertical Profile Results
CS-23 Data Gap Direct Push Drilling Program
Direct Push Location 69DP1724

Sample Interval	Sample Date	Depth TOS (ft bgs)	Depth BOS (ft bgs)	Mid-Depth (ft bgs)	Mid-Depth (ft msl)	TCE (µg/L) MCL = 5	CCl_4 (µg/L) MCL = 5	PCE (µg/L) MCL = 5
A	6/26/2012	100	105	102.5	8.5	ND	ND	ND
B	6/26/2012	110	115	112.5	-1.5	ND	ND	ND
C	6/27/2012	120	125	122.5	-11.5	BRL	BRL	BRL
D	6/27/2012	130	135	132.5	-21.5	BRL	BRL	BRL
E	6/27/2012	140	145	142.5	-31.5	1.2	1.3	1
F	6/27/2012	150	155	152.5	-41.5	BRL	BRL	BRL
G	6/27/2012	155.5	165.5	160.5	-49.5	BRL	BRL	BRL

Data Source: AFCEC, March 2013, MMR-AFCEC Data Warehouse

Key:

BOS = bottom of screen
BRL = below reporting limit (1 µg/L)
CCl_4 = carbon tetrachloride
ft bgs = feet below ground surface
ft msl = feet mean sea level
MCL = Maximum Contaminant Level
ND = not detected
PCE = tetrachloroethene
TCE = trichloroethene
TOS = top of screen
µg/L = micrograms per liter

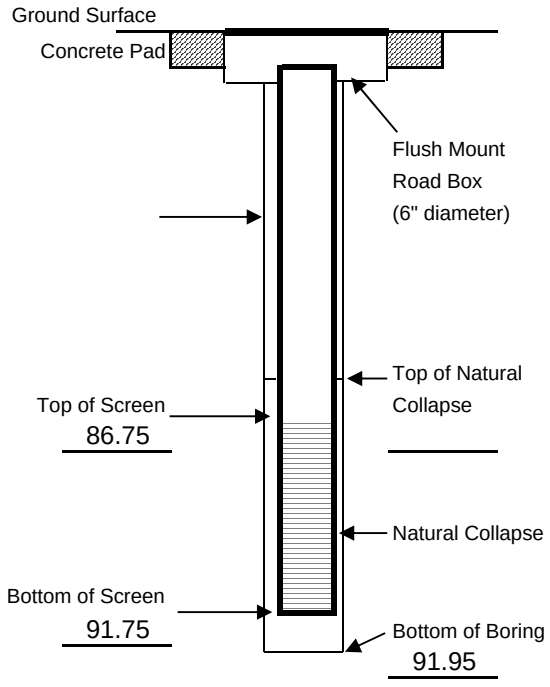
Notes:

Analytical sampling methods for the specified parameters: VOC (SW846 8260B).
Drilling Start Date - 06/26/12, Drilling Finish Date - 06/27/12.
Approximate ground level elevation 111 ft msl.
Drilling refusal was obtained at ~183.5 ft bgs (~ -59.5 ft msl).
Approximate depth to water = 60 ft bgs.

SMALL DIAMETER DRIVEN WELL INSTALLATION LOG
PIEZOMETER/WELL INSTALLATION DIAGRAM

Project Name:	SPEIM/LTM	**LOC ID:**	27MW2062
Project Number:	437075	**Total Borehole Depth:**	91.95 ft bgs
Date Started:	3-Jan-13	**Total Well Depth:**	91.75 ft bgs
Date Completed:	3-Jan-13	**Construction Materials:**	Schedule 40 PVC
Rig Type:	Geoprobe 6620DT	**MP Elevation:**	142.5 ft msl (estimated)
Rig Operator:	Mark Gifford	**Surface Elevation:**	143 ft msl (estimated)
Borehole Diameter (in):	2.25	**Northing:**	248086 (estimated)
Well Diameter (in):	1	**Easting:**	856517 (estimated)

GRAPHICAL REPRESENTATION



PIEZOMETER/WELL MATERIAL DESCRIPTIONS

Well Riser: Schedule 40 PVC; flush joint threaded; 1.0 inch inner diameter; 5-foot long sections.

Well Screen: Schedule 40 PVC; flush joint threaded; 0.010-in slot size; 1.0 in diameter; 5-foot long sections; annular space filled with natural collapse

Bentonite Grout: NA

Flush Mount Box: Environmental Manufacturing, Inc.; steel construction; 6-inch diameter; 10-inch depth.

Well Cap: Geoprobe Systems Inc.; locking well plug; 1.0 inch diameter.

LEGEND:

LOC ID:	Location Identification
MP:	Measuring Point
in:	inches
ft:	feet
msl:	mean sea level
bgs:	below ground surface

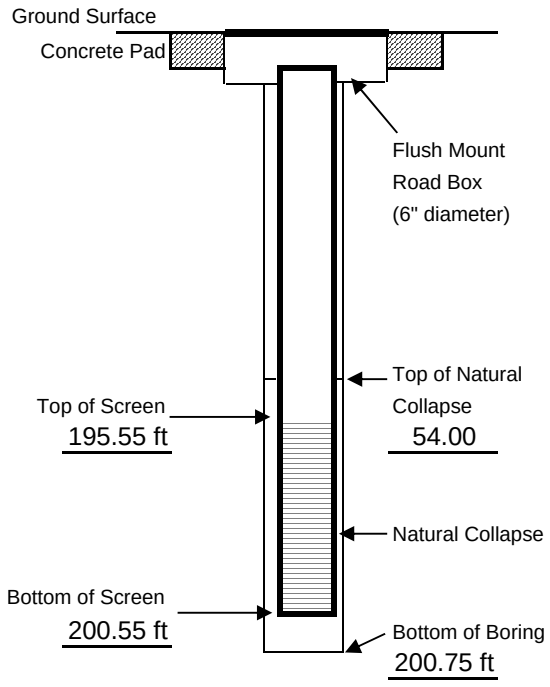
INSTALLATION NOTES:

FIRST WATER:	82 feet bgs.
REFUSAL:	NA
OTHER:	Borehole depths are from bgs.

SMALL DIAMETER DRIVEN WELL INSTALLATION LOG
PIEZOMETER/WELL INSTALLATION DIAGRAM

Project Name:	CS-23	**LOC ID:**	69MW1722A
Project Number:	437075	**Total Borehole Depth:**	200.75 ft bgs
Date Started:	1-Nov-12	**Total Well Depth:**	200.55 ft bgs
Date Completed:	1-Nov-12	**Construction Materials:**	Mild steel
Rig Type:	Geoprobe 6620DT	**MP Elevation:**	102.5 ft msl (estimated)
Rig Operator:	M. Gifford	**Surface Elevation:**	103 ft msl (estimated)
Borehole Diameter (in):	1.5	**Northing:**	239594 (estimated)
Well Diameter (in):	0.625	**Easting:**	851681 (estimated)

GRAPHICAL REPRESENTATION



PIEZOMETER/WELL MATERIAL DESCRIPTIONS

Well Riser: Flush joint; mild steel; threaded; 1.5-inch outer diameter; 5-foot long sections

Well Screen: Flush joint; mild steel; threaded; 0.010-in slot size; 1.5 inch outer diameter; 5-foot long sections; natural collapse.

Bentonite Grout: NA

Flush Mount Box: Environmental Manufacturing, Inc.; steel construction; 6-inch diameter; 10-inch depth.

Well Cap: Torquer Plug; 0.5 inch expandable locking well plug.

LEGEND:

LOC ID:	Location Identification
MP:	Measuring Point
in:	inches
ft:	feet
msl:	mean sea level
bgs:	below ground surface

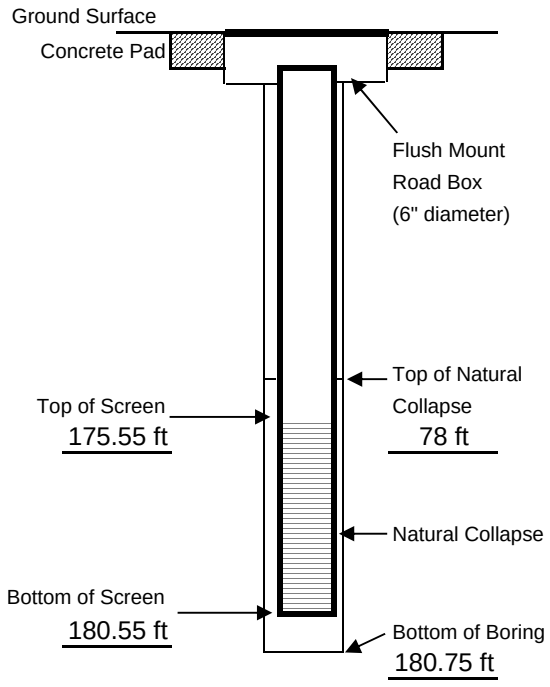
INSTALLATION NOTES:

FIRST WATER:	53.56 ft bgs
REFUSAL:	NA
OTHER:	Borehole depths are from ft bgs

SMALL DIAMETER DRIVEN WELL INSTALLATION LOG
PIEZOMETER/WELL INSTALLATION DIAGRAM

Project Name:	CS-23	**LOC ID:**	69MW1723A
Project Number:	437075	**Total Borehole Depth:**	180.75 ft bgs
Date Started:	14-Nov-12	**Total Well Depth:**	180.55 ft bgs
Date Completed:	14-Nov-12	**Construction Materials:**	Mild steel
Rig Type:	Geoprobe 6620DT	**MP Elevation:**	123.5 ft msl (estimated)
Rig Operator:	M. Gifford	**Surface Elevation:**	124 ft msl(estimated)
Borehole Diameter (in):	1.5	**Northing:**	238892 (estimated)
Well Diameter (in):	0.625	**Easting:**	850577 (estimated)

GRAPHICAL REPRESENTATION



PIEZOMETER/WELL MATERIAL DESCRIPTIONS

Well Riser: Flush joint; mild steel; threaded; 1.5-inch outer diameter; 5-foot long sections

Well Screen: Flush joint; mild steel; threaded; 0.010-in slot size; 1.5 inch outer diameter; 5-foot long sections; natural collapse.

Bentonite Grout: NA

Flush Mount Box: Environmental Manufacturing, Inc.; steel construction; 6-inch diameter; 10-inch depth.

Well Cap: Torquer Plug; 0.5 inch expandable locking well plug.

LEGEND:

LOC ID:	Location Identification
MP:	Measuring Point
in:	inches
ft:	feet
msl:	mean sea level
bgs:	below ground surface

INSTALLATION NOTES:

FIRST WATER:	77.5 ft bgs
REFUSAL:	NA
OTHER:	Borehole depths are from ft bgs

ATTACHMENT F

LF-1/CS-23 2012 SLR

Data Summary Report

Attachment F
Data Summary Report
LF-1/CS-23 2012 Summary Letter Report

INTRODUCTION

The objective of this data summary report (DSR) is to assess the data quality of analytical results for samples collected for the Landfill-1 (LF-1) and Chemical Spill-23 (CS-23) System Performance and Ecological Impact Monitoring (SPEIM) Program at the Massachusetts Military Reservation (MMR) as presented in the *LF-1/CS-23 2012 Summary Letter Report*. This report is intended as a general data quality assessment designed to summarize data issues.

ANALYTICAL DATA

This DSR covers 30 borewater samples with four field duplicate samples, 84 groundwater samples with nine field duplicate samples, two surface water samples with one field duplicate sample, and 99 wastewater samples. Field duplicates are not required for treatment facility plant samples. These samples were reported under 56 sample delivery groups. Samples were collected between 12 January 2012 and 26 December 2012. The analyses were performed by Analytics Environmental Laboratory LLC (ANAP) in Portsmouth, New Hampshire. Samples were collected and shipped by overnight carrier to ANAP for analysis. Samples were analyzed for one or more of the analytes/methods provided in Table F-1.

Table F-1
Analytical Parameter

Parameter	Method	Laboratory
Ethylene Dibromide (EDB)	E504.1	ANAP
Volatile Organic Compounds (VOC)	E524.2	ANAP
VOCs	SW8260B	ANAP
Screening Data VOCs	Modified SW8260B	ANAP

E = Environmental Protection Agency (EPA) Method
SW = SW 846 Test Methods for Evaluating Solid Waste, 3rd Edition, Revision 4, 1996
M = EPA Region 1 Technical Guidance Report

The data were assessed using the MMR SPEIM Quality Assurance Project Plan (QAPP)[1]. The assessment included a review of the following:

- Chain-of-Custody documentation
- Holding time compliance
- Required quality control (QC) samples at the specified frequencies
- Method blanks
- Laboratory control spiking samples
- Surrogate spike recoveries
- Internal standards
- Initial and continuing calibration information and other method-specific criteria as defined by the SPEIM QAPP

Field samples were reviewed to ascertain field compliance and data quality issues. This included a review of trip blanks, equipment blanks, and field duplicates.

Data were carried through data validation as described in the SPEIM QAPP and data flags were assigned according to the SPEIM QAPP. These flags, and the reason for each flag, were entered into the electronic database and can be found in Table F-2 (located at the end of this attachment). Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there is only one final flag. A final flag is applied to the data, and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are listed in the SPEIM QAPP and are defined as follows:

- J = Analyte was present but the reported value may not be accurate or precise (estimated).
- R = Analyte result was unusable due to deficiencies in the ability to analyze the sample and meet QC criteria.

[1] AFCEE. 2012 (July). *Quality Assurance Project Plan for the MMR SPEIM/LTM/O&M Program.* 420005-Program-Multiple-QAPP-001. Prepared by CH2M HILL for AFCEE/MMR Installation Restoration Program, Otis Air National Guard Base, MA.

- U = Analyte was not detected at the specified detection limit.
- UJ = Analyte was not detected and the specified detection limit may not be accurate or precise (estimated).

FINDINGS

The summaries of the data validation findings are contained in the following subsections and Table F-2.

Holding Times

All holding-time criteria were met. No holding time flags were applied.

Calibration

Initial and continuing calibrations were analyzed as required in every analytical batch and were in control. No calibration flags were applied.

Method Blanks

Method blanks were analyzed at the required frequency for each method. Chloroform had laboratory blank contamination less than the RL for method E524.2. There was one Chloroform detected result flagged 'U'.

Field Blanks

Trip blanks and equipment blanks were collected and analyzed at the required frequency. Trichloroethene had one equipment blank concentration less than the RL for method SW8260B. There was one trichloroethene detected result flagged 'US'.

Field Duplicates

Field duplicates were collected as required, and precision was acceptable. No field duplicate flags were applied.

Matrix Spike Samples

Matrix spike/matrix spike duplicates were not required for these samples in accordance with the SPEIM QAPP.

Surrogates

Surrogate recoveries met each method SPEIM QAPP criteria. No surrogate flags were applied.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed as required and generally in control. Chloroethane had LCSD RPD criteria exceeded for method E524.2. There were six chloroethane non-detected results qualified as estimated concentrations and flagged 'UJ'.

Confirmation Results

Confirmation samples were analyzed as required by method E504.1. EDB had confirmation precision exceeded for method E504.1. There were two EDB detected results qualified as estimated concentrations and flagged 'J'.

Internal Standards

Internal standards were in control. No internal standard flags were applied.

Chain of Custody

No chain of custody anomalies were noted in the review.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision-making process. The procedures for assessing the precision, accuracy, representativeness, completeness, and comparability parameters (PARCC) are addressed in the SPEIM QAPP. The following summary highlights the PARCC findings for the above-defined events:

1. The completeness goal for valid usable data is 95 percent for aqueous samples. Completeness for aqueous samples was 100 percent.
2. The routinely acceptable performance of field and laboratory QC indicators (field duplicates, field blanks, laboratory blanks, surrogate spikes, LCS, and calibrations) shows that the precision and accuracy of the data met project objectives.
3. Sample results are representative and comparable to field conditions and past historical data because the field sampling and laboratory analyses were performed using standardized and documented procedures as defined in project documents. In addition, all results were reported with industry standard units. A minimum number of sample results were qualified due to blank contamination. Blank concentrations were relatively low in relation to the RL and overall, reflect normal laboratory and field operating conditions.

Table F-2
Validation Flags[a]

Field ID	Method	Analyte	Final Result (µg/L)	Final Flag	Reason
CHPH00002-Q0412	E504.1	1,2-Dibromoethane (EDB)	0.034	J	CF>RPD
CHPH00006-Q0412	E504.1	1,2-Dibromoethane (EDB)	0.026	J	CF>RPD
CHPH0037A-A0612S	SW8260B	Trichloroethene	1	US	EB<RL
CHPJ0039A-A0912DIF	E524.2	Chloroform	0.21	U	LB<RL
CHPJ00007-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD
CHPJ00008-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD
CHPJ00009-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD
CHPJ00040-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD
CHPJ0039A-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD
CHPJ10040-A0912DIF	E524.2	Chloroethane	0.07	UJ	LCSRPD

[a]Field samples and field duplicates only.

Table sorted by Reason, Analyte and Field ID.

Key:
CF>RPD = Confirmation Precision Exceeded
EB<RL = Equipment blank concentration less than the RL
J = estimated
LB<RL = Laboratory blank contamination less than the RL
LCSRPD = LCSD RPD criteria exceeded
U = undetected
UJ = estimated non-detection
US = undetected screening data

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.7	0.19	1	µg/L	S
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.5	0.2	1	µg/L	S
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.7	0.19	1	µg/L	S
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.9	0.2	1	µg/L	S
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.2	0.2	1	µg/L	S
27EW0001	1/12/2012	CHPH00001-S0112S	297	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	15	0.2	1	µg/L	S
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.6	0.19	1	µg/L	S
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.4	0.2	1	µg/L	S
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	S
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.6	0.2	1	µg/L	S
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0001	7/5/2012	CHPH00001-S0712S	297	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	13	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH00002-Q0112	259.05	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
27EW0002	1/12/2012	CHPH10002-Q0112	259.05	FD1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.5	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.6	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.6	0.19	1	µg/L	S
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.6	0.19	1	µg/L	S
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	8.4	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	8.3	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0002	1/12/2012	CHPH00002-Q0112S	259.05	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.8	0.2	1	µg/L	S
27EW0002	1/12/2012	CHPH10002-Q0112S	259.05	FD1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.5	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH00002-Q0412	259.05	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.034	0.005	0.01	µg/L	J
27EW0002	4/18/2012	CHPH10002-Q0412	259.05	FD1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.018	0.005	0.01	µg/L	
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.1	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.1	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	S

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	S
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.6	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.4	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0002	4/18/2012	CHPH00002-Q0412S	259.05	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8	0.2	1	µg/L	S
27EW0002	4/18/2012	CHPH10002-Q0412S	259.05	FD1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712	259.05	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.012	0.005	0.01	µg/L	
27EW0002	7/5/2012	CHPH10002-S0712	259.05	FD1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.009	0.005	0.009	µg/L	
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.5	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.6	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.6	0.19	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.6	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.8	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0002	7/5/2012	CHPH10002-S0712S	259.05	FD1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.8	0.2	1	µg/L	S
27EW0002	7/5/2012	CHPH00002-S0712S	259.05	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.2	0.2	1	µg/L	S
27EW0002	10/3/2012	CHPH00002-Q1012	259.05	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.012	0.005	0.01	µg/L	
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.5	0.2	1	µg/L	S
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	S
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	S
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.3	0.2	1	µg/L	S
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0002	10/3/2012	CHPH00002-Q1012S	259.05	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.3	0.2	1	µg/L	S
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	3	0.19	1	µg/L	S
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	S
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	S
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.5	0.2	1	µg/L	S
27EW0003	1/12/2012	CHPH00003-S0112S	269	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	14	0.2	1	µg/L	S
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	3.2	0.19	1	µg/L	S
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.6	0.19	1	µg/L	S
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.3	0.2	1	µg/L	S
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0003	7/5/2012	CHPH00003-S0712S	269	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	14	0.2	1	µg/L	S
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	5.9	0.19	1	µg/L	S
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.5	0.2	1	µg/L	S
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0004	1/12/2012	CHPH00004-S0112S	289.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.5	0.2	1	µg/L	S
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.1	0.19	1	µg/L	S
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	5.5	0.19	1	µg/L	S
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.5	0.2	1	µg/L	S
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0004	7/5/2012	CHPH00004-S0712S	289.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.2	0.2	1	µg/L	S
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.3	0.2	1	µg/L	S
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0005	1/12/2012	CHPH00005-S0112S	219.4	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	JS
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.6	0.2	1	µg/L	S
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0005	7/20/2012	CHPH00005-S0712S	219.4	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	JS
27EW0006	1/12/2012	CHPH00006-Q0112	255	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.6	0.2	1	µg/L	S
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.3	0.19	1	µg/L	S
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.6	0.2	1	µg/L	S
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0006	1/12/2012	CHPH00006-Q0112S	255	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	JS
27EW0006	4/18/2012	CHPH00006-Q0412	255	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.026	0.005	0.01	µg/L	J

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2	0.2	1	µg/L	S
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.9	0.19	1	µg/L	S
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.3	0.2	1	µg/L	S
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0006	4/18/2012	CHPH00006-Q0412S	255	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	JS
27EW0006	7/5/2012	CHPH00006-S0712	255	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	BRL	0.005	0.01	µg/L	J
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.3	0.2	1	µg/L	S
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.1	0.19	1	µg/L	S
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.6	0.2	1	µg/L	S
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27EW0006	7/5/2012	CHPH00006-S0712S	255	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.1	0.2	1	µg/L	S
27EW0006	10/3/2012	CHPH00006-Q1012	255	N1	WG	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	BRL	0.005	0.01	µg/L	J
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.9	0.2	1	µg/L	S
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	S
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.3	0.2	1	µg/L	S
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0006	10/3/2012	CHPH00006-Q1012S	255	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1	0.2	1	µg/L	S
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2	0.2	1	µg/L	S
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.8	0.19	1	µg/L	S
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.3	0.2	1	µg/L	S
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0007	1/12/2012	CHPH00007-Q0112S	274	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.8	0.2	1	µg/L	S
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	S
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	S
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0007	4/18/2012	CHPH00007-Q0412S	274	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.2	0.2	1	µg/L	S

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.9	0.19	1	µg/L	S
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.2	0.2	1	µg/L	S
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0007	7/5/2012	CHPH00007-S0712S	274	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.4	0.2	1	µg/L	S
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.1	0.19	1	µg/L	S
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3	0.2	1	µg/L	S
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0007	10/3/2012	CHPH00007-Q1012S	274	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.3	0.2	1	µg/L	S
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0008	1/12/2012	CHPH00008-Q0112S	245	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.8	0.2	1	µg/L	S
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0008	4/18/2012	CHPH00008-Q0412S	245	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.1	0.2	1	µg/L	S
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0008	7/5/2012	CHPH00008-S0712S	245	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	S
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27EW0008	10/3/2012	CHPH00008-Q1012S	245	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.4	0.19	1	µg/L	S
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	6.2	0.19	1	µg/L	S
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	23	0.2	1	µg/L	S
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27MW0022	6/5/2012	CHPH00022-A0612S	170.4	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	12	0.2	1	µg/L	S
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	2.2	0.2	1	µg/L	S
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	6.9	0.19	1	µg/L	S
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.2	0.2	1	µg/L	S
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0026B	6/5/2012	CHPH0026B-A0612S	207.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	S
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1	0.2	1	µg/L	S
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	CHLOROFORM	1.1	0.2	1	µg/L	S
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	S
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	21	0.2	1	µg/L	S
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0028B	6/4/2012	CHPH0028B-A0612DIFS	134.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	10	0.2	1	µg/L	S
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	2.7	0.19	1	µg/L	S
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.7	0.19	1	µg/L	S
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	14	0.2	1	µg/L	S
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27MW0031A	5/30/2012	CHPH0031A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	12	0.2	1	µg/L	S
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	CHLOROFORM	1.7	0.2	1	µg/L	S
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0037A	6/6/2012	CHPH0037A-A0612S	215.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	BRL	0.04	0.5	µg/L	J
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	CHLOROFORM	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	1.3	0.08	0.5	µg/L	
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0039A	9/4/2012	CHPJ0039A-A0912DIF	142	N1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	CHLOROFORM	2.6	0.05	0.5	µg/L	
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	CHLOROFORM	2.5	0.05	0.5	µg/L	
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	BRL	0.08	0.5	µg/L	J
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	BRL	0.08	0.5	µg/L	J
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U

Attachment F
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ00040-A0912DIF	160.1	N1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0040	9/4/2012	CHPJ10040-A0912DIF	160.1	FD1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.6	0.19	1	µg/L	S
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0040Z	6/22/2012	CHPH0040Z-A0612DIFS	265.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2	0.19	1	µg/L	S
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.5	0.2	1	µg/L	S
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0048	5/30/2012	CHPH00048-A0612DIFS	206.7	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.6	0.19	1	µg/L	S
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.6	0.2	1	µg/L	S
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0054	6/8/2012	CHPH00054-A0612S	138.35	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.2	0.19	1	µg/L	S
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.7	0.2	1	µg/L	S

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0054Z	6/8/2012	CHPH0054Z-A0612S	149.8	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	S
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.6	0.2	1	µg/L	S
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0055	6/29/2012	CHPH00055-A0612S	155.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	S
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.9	0.2	1	µg/L	S
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0066	6/22/2012	CHPH00066-A0612DIFS	158.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	JS
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	S
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.9	0.19	1	µg/L	S
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4	0.2	1	µg/L	S
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0083	7/12/2012	CHPH00083-A0612S	183.1	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.1	0.19	1	µg/L	S
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.5	0.2	1	µg/L	S
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27MW0097B	5/30/2012	CHPH0097B-A0612DIFS	244.75	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	22	0.2	1	µg/L	S
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	5.2	0.19	1	µg/L	S
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0101B	6/4/2012	CHPH0101B-A0612DIFS	232.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.5	0.19	1	µg/L	S
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.1	0.19	1	µg/L	S
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.1	0.2	1	µg/L	S
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0102A	6/4/2012	CHPH0902A-A0612DIFS	302.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	9.7	0.2	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	3.4	0.19	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.1	0.2	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	5.8	0.19	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.2	0.2	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.7	0.2	1	µg/L	S
27MW0107A	6/4/2012	CHPH0107A-A0612DIFS	322.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	25	0.2	1	µg/L	S
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	11	0.2	1	µg/L	S
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0108A	6/22/2012	CHPH0108A-A0612DIFS	224.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.3	0.2	1	µg/L	S
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	S
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW0705	6/22/2012	CHPH00705-A0612DIFS	78.8	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	2.7	0.19	1	µg/L	S
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	6.2	0.19	1	µg/L	S
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.2	0.2	1	µg/L	S
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27MW1002A	6/4/2012	CHPH0102A-A0612DIFS	332.78	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	10	0.2	1	µg/L	S
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	5	0.19	1	µg/L	S
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.6	0.19	1	µg/L	S
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1	0.2	1	µg/L	S
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.1	0.2	1	µg/L	S
27MW1002B	6/4/2012	CHPH0102B-A0612DIFS	252.71	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	11	0.2	1	µg/L	S
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	BRL	0.19	1	µg/L	JS
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1	0.2	1	µg/L	S
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	CHLOROFORM	1.2	0.2	1	µg/L	S
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.8	0.19	1	µg/L	S
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	21	0.2	1	µg/L	S
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW1003A	6/4/2012	CHPH0103A-A0612DIFS	196.7	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	10	0.2	1	µg/L	S
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	6.3	0.2	1	µg/L	S
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	12	0.19	1	µg/L	S
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.4	0.2	1	µg/L	S
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW1005A	6/4/2012	CHPH0105A-A0612DIFS	262.28	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1	0.19	1	µg/L	S
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW1005B	6/4/2012	CHPH0105B-A0612DIFS	197.46	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	8	0.19	1	µg/L	S
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.8	0.19	1	µg/L	S
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.3	0.2	1	µg/L	S
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	2.1	0.2	1	µg/L	S
27MW1006A	6/1/2012	CHPH0106A-A0612DIFS	282.03	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	22	0.2	1	µg/L	S
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	7.2	0.2	1	µg/L	S
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	CHLOROFORM	4.2	0.2	1	µg/L	S
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	11	0.19	1	µg/L	S
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.8	0.2	1	µg/L	S
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW1007B	6/6/2012	CHPH01007B-A0612S	163.4	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	5.9	0.2	1	µg/L	S
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	5.3	0.2	1	µg/L	S

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW1010A	6/22/2012	CHPH0110A-A0612DIFS	214.18	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.6	0.2	1	µg/L	S
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.8	0.19	1	µg/L	S
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	8.4	0.19	1	µg/L	S
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	25	0.2	1	µg/L	S
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1	0.2	1	µg/L	S
27MW1012B	5/30/2012	CHPH0112B-A0612DIFS	175.11	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	17	0.2	1	µg/L	S
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	4.3	0.19	1	µg/L	S
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.8	0.19	1	µg/L	S
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.6	0.2	1	µg/L	S
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	JS
27MW1013B	5/30/2012	CHPH0113B-A0612DIFS	192.96	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	11	0.2	1	µg/L	S
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	6.2	0.19	1	µg/L	S
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.5	0.2	1	µg/L	S
27MW1014A	6/12/2012	CHPH0114A-A0612S	162.95	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	10	0.2	1	µg/L	S
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.6	0.2	1	µg/L	S
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	CHLOROFORM	2	0.2	1	µg/L	S
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2061	6/22/2012	CHPH02061-A0612DIFS	71	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	CHLOROFORM	2	0.2	1	µg/L	S
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/20/2012	CHPH02062A-O1112S	87.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	CHLOROFORM	2	0.2	1	µg/L	S
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062B-O1112S	97.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	S
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	CHLOROFORM	1.1	0.2	1	µg/L	S
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH12062C-O1112S	107.5	FD1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2062	11/26/2012	CHPH02062C-O1112S	107.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	CHLOROFORM	6.3	0.2	1	µg/L	S
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.1	0.2	1	µg/L	S
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2071	6/14/2012	CHPH02071-A0612DIFS	77	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2082	6/14/2012	CHPH02082-A0612DIFS	133.75	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.4	0.19	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	4.7	0.2	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	CHLOROFORM	1.8	0.2	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	7.1	0.19	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	12	0.2	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	1.1	0.2	1	µg/L	S
27MW2119A	6/6/2012	CHPH0219A-A0612S	270.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	18	0.2	1	µg/L	S
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	6.1	0.2	1	µg/L	S
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2120A	6/1/2012	CHPH0220A-A0612DIFS	235.5	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	2.7	0.2	1	µg/L	S
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2131A	6/1/2012	CHPH0231A-A0612DIFS	272.9	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	CHLOROFORM	2.6	0.2	1	µg/L	S
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2132A	6/1/2012	CHPH0232A-A0612DIFS	191.96	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	JS
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	27	0.19	1	µg/L	S
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	28	0.19	1	µg/L	S
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	87	0.2	1	µg/L	S
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	88	0.2	1	µg/L	S
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
27MW2135A	6/14/2012	CHPH0235A-A0612DIFS	202.16	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	4.9	0.2	1	µg/L	S
27MW2135A	6/14/2012	CHPH1235A-A0612DIFS	202.16	FD1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	4.5	0.2	1	µg/L	S
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	5.5	0.19	1	µg/L	S
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	JS
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	9.1	0.19	1	µg/L	S
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	10	0.2	1	µg/L	S

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	3.2	0.2	1	µg/L	S
27MW2136A	6/4/2012	CHPH0236A-A0612DIFS	280.17	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	42	0.2	1	µg/L	S
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.3	0.19	1	µg/L	
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.1	0.2	1	µg/L	
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.2	0.19	1	µg/L	
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.5	0.2	1	µg/L	
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
27PLT01001	1/30/2012	CHTF01001-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.4	0.19	1	µg/L	
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.7	0.2	1	µg/L	
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	2/27/2012	CHTF01001-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.5	0.19	1	µg/L	
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.5	0.2	1	µg/L	
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	3/27/2012	CHTF01001-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.2	0.19	1	µg/L	
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3	0.19	1	µg/L	
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3	0.2	1	µg/L	
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.1	0.2	1	µg/L	
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	4/26/2012	CHTF01001-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.3	0.19	1	µg/L	
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.9	0.2	1	µg/L	
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.9	0.19	1	µg/L	
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.8	0.2	1	µg/L	
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.4	0.2	1	µg/L	
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	5/29/2012	CHTF01001-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.6	0.19	1	µg/L	
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.9	0.2	1	µg/L	
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.4	0.2	1	µg/L	
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	6/26/2012	CHTF01001-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.9	0.19	1	µg/L	
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	BRL	0.2	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	4.2	0.19	1	µg/L	
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.2	0.2	1	µg/L	
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	14	0.2	1	µg/L	
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	7/18/2012	CHTF01001-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.4	0.19	1	µg/L	
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3	0.19	1	µg/L	
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.4	0.2	1	µg/L	
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.6	0.2	1	µg/L	
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	8/28/2012	CHTF01001-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.4	0.19	1	µg/L	
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.7	0.19	1	µg/L	
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.3	0.2	1	µg/L	
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.7	0.2	1	µg/L	
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	9/27/2012	CHTF01001-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	BRL	0.13	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.3	0.19	1	µg/L	

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.7	0.19	1	µg/L	
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.1	0.2	1	µg/L	
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.2	0.2	1	µg/L	
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	11/28/2012	CHTF01001-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	BRL	0.16	1	µg/L	J
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	1.3	0.19	1	µg/L	
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.5	0.19	1	µg/L	
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.2	0.2	1	µg/L	
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.4	0.2	1	µg/L	
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01001	12/26/2012	CHTF01001-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7	0.2	1	µg/L	
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01002	1/30/2012	CHTF01002-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.2	0.2	1	µg/L	
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01002	2/27/2012	CHTF01002-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	BRL	0.15	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.3	0.2	1	µg/L	
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.9	0.2	1	µg/L	
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01002	3/27/2012	CHTF01002-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	7.3	0.2	1	µg/L	
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01002	11/28/2012	CHTF01002-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	9.3	0.2	1	µg/L	
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01002	12/26/2012	CHTF01002-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.2	0.2	1	µg/L	
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	BRL	0.2	1	µg/L	J
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	6.5	0.2	1	µg/L	
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	4/26/2012	CHTF01003-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	2.9	0.2	1	µg/L	
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	6.5	0.2	1	µg/L	
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	5/29/2012	CHTF01003-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	BRL	0.15	1	µg/L	J
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.6	0.2	1	µg/L	
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.3	0.2	1	µg/L	
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	6/26/2012	CHTF01003-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	BRL	0.15	1	µg/L	J
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.3	0.2	1	µg/L	
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	10	0.2	1	µg/L	
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	7/18/2012	CHTF01003-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.4	0.2	1	µg/L	
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1	0.2	1	µg/L	
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	8.5	0.2	1	µg/L	
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	8/28/2012	CHTF01003-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.1	0.2	1	µg/L	
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.1	0.2	1	µg/L	
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	9	0.2	1	µg/L	
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01003	9/27/2012	CHTF01003-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	1/30/2012	CHTF01004-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.7	0.2	1	µg/L	
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	2/27/2012	CHTF01004-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	3.8	0.2	1	µg/L	
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	3/27/2012	CHTF01004-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	4/26/2012	CHTF01004-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	5/29/2012	CHTF01004-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	6/26/2012	CHTF01004-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	7/18/2012	CHTF01004-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.7	0.2	1	µg/L	
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	2.2	0.2	1	µg/L	
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	8/28/2012	CHTF01004-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1.8	0.2	1	µg/L	
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	6.4	0.2	1	µg/L	
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	9/27/2012	CHTF01004-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	11/28/2012	CHTF01004-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27PLT01004	12/26/2012	CHTF01004-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	tert-BUTYL METHYL ETHER	BRL	0.2	1	µg/L	J
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27RBH07	4/5/2012	CHPV0RBH7-A0412	N/A	N1	WG	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.8	0.19	1	µg/L	
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.7	0.19	1	µg/L	
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0005	4/5/2012	CHPV10005-A0412	N/A	FD1	WG	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0005	4/5/2012	CHPV00005-A0412	N/A	N1	WG	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0006	4/5/2012	CHPV10006-A0412	N/A	FD1	WS	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0006	4/5/2012	CHPV00006-A0412	N/A	N1	WS	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
27SW0007	4/5/2012	CHPV00007-A0412	N/A	N1	WS	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722A-O0612S	87.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722B-O0612S	97.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722C-O0612S	107.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/11/2012	CHPW01722D-O0612S	117.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722E-O0612S	127.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722F-O0612S	137.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722G-O0612S	147.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	3	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	3.1	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.6	0.19	1	µg/L	S
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.6	0.19	1	µg/L	S
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	6.6	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	6.8	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722H-O0612S	157.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW11722H-O0612S	157.5	FD1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	3.4	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.7	0.19	1	µg/L	S
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	9.3	0.2	1	µg/L	S
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/12/2012	CHPW01722I-O0612S	167.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	1	0.2	1	µg/L	S
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7.4	0.2	1	µg/L	S

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722J-O0612S	177.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	7	0.2	1	µg/L	S
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722K-O0612S	187.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	1.7	0.2	1	µg/L	S
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.1	0.19	1	µg/L	S
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	12	0.2	1	µg/L	S
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/13/2012	CHPW01722L-O0612S	197.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1722	6/14/2012	CHPW01722M-O0612S	207.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/18/2012	CHPW01723A-O0612S	122.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723B-O0612S	132.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1	0.2	1	µg/L	S
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723C-O0612S	142.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723D-O0612S	152.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.2	0.2	1	µg/L	S
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723E-O0612S	162.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	18	0.2	1	µg/L	S
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723F-O0612S	172.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	19	0.2	1	µg/L	S
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	17	0.2	1	µg/L	S
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW11723G-O0612S	181	FD1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1723	6/19/2012	CHPW01723G-O0612S	181	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724A-O0612S	102.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/26/2012	CHPW01724B-O0612S	112.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724C-O0612S	122.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724D-O0612S	132.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	1.3	0.2	1	µg/L	S
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1	0.19	1	µg/L	S
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.2	0.2	1	µg/L	S
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724E-O0612S	142.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724F-O0612S	152.5	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW11724G-O0612S	158	FD1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69DP1724	6/27/2012	CHPW01724G-O0612S	158	N1	WA	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	2.3	0.2	1	µg/L	S
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1709B	6/1/2012	CHPH0709B-A0612DIFS	156.96	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	1.6	0.2	1	µg/L	S
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.5	0.19	1	µg/L	S
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	12	0.2	1	µg/L	S
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1710A	5/30/2012	CHPH0710A-A0612DIFS	202.56	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	JS
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1712A	5/30/2012	CHPH0712A-A0612DIFS	221.08	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.8	0.2	1	µg/L	S
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1713A	5/30/2012	CHPH0713A-A0612DIFS	161.64	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	6.5	0.2	1	µg/L	S
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1715A	6/1/2012	CHPH0715A-A0612DIFS	252.03	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	US
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	JS
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	JS
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	11	0.2	1	µg/L	S
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
69MW1715B	6/1/2012	CHPH0715B-A0612DIFS	171.6	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	2	0.2	1	µg/L	
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.7	0.19	1	µg/L	
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4	0.2	1	µg/L	
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	1/31/2012	CHTK01004-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	2	0.2	1	µg/L	
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.6	0.19	1	µg/L	
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4	0.2	1	µg/L	
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	2/27/2012	CHTK01004-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.9	0.2	1	µg/L	
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.9	0.2	1	µg/L	
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	3/27/2012	CHTK01004-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.8	0.2	1	µg/L	
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.9	0.2	1	µg/L	
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.7	0.2	1	µg/L	
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	4/26/2012	CHTK01004-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	2.3	0.2	1	µg/L	
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.8	0.19	1	µg/L	
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.5	0.2	1	µg/L	
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	2	0.2	1	µg/L	
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	5/29/2012	CHTK01004-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	2	0.2	1	µg/L	
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.2	0.19	1	µg/L	
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.6	0.2	1	µg/L	
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.7	0.2	1	µg/L	
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	6/26/2012	CHTK01004-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.7	0.2	1	µg/L	
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.1	0.19	1	µg/L	
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.2	0.2	1	µg/L	
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.6	0.2	1	µg/L	
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	BRL	0.2	1	µg/L	J
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	7/18/2012	CHTK01004-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.9	0.2	1	µg/L	
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.5	0.19	1	µg/L	
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	4.2	0.2	1	µg/L	
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	8/28/2012	CHTK01004-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.9	0.2	1	µg/L	
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.3	0.19	1	µg/L	

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.8	0.2	1	µg/L	
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	9/27/2012	CHTK01004-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.8	0.2	1	µg/L	
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.6	0.19	1	µg/L	
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.7	0.2	1	µg/L	
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.6	0.2	1	µg/L	
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	10/25/2012	CHTK01004-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.8	0.2	1	µg/L	
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	3.4	0.19	1	µg/L	
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.9	0.2	1	µg/L	
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.5	0.2	1	µg/L	
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	11/28/2012	CHTK01004-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	2.1	0.2	1	µg/L	
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	2.8	0.19	1	µg/L	
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	3.6	0.2	1	µg/L	
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.5	0.2	1	µg/L	
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01004	12/26/2012	CHTK01004-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	1/31/2012	CHTK01005-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	2/27/2012	CHTK01005-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	3/27/2012	CHTK01005-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.009	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	4/26/2012	CHTK01005-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.009	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	5/29/2012	CHTK01005-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	6/26/2012	CHTK01005-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.009	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	BRL	0.2	1	µg/L	J
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	7/18/2012	CHTK01005-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.009	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	8/28/2012	CHTK01005-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	9/27/2012	CHTK01005-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	10/25/2012	CHTK01005-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.009	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	11/28/2012	CHTK01005-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	E504.1	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.005	0.01	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT01005	12/26/2012	CHTK01005-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	1/31/2012	CHTK03101-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	2/27/2012	CHTK03101-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.1	0.2	1	µg/L	
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	3/27/2012	CHTK03101-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.5	0.2	1	µg/L	
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	4/26/2012	CHTK03101-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.2	0.2	1	µg/L	
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.7	0.2	1	µg/L	
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	5/29/2012	CHTK03101-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	6/26/2012	CHTK03101-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	7/18/2012	CHTK03101-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	8/28/2012	CHTK03101-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.3	0.2	1	µg/L	
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03101	9/27/2012	CHTK03101-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.2	0.2	1	µg/L	
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.4	0.2	1	µg/L	
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03101	10/25/2012	CHTK03101-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.2	0.2	1	µg/L	
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	1/31/2012	CHTK03102-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.3	0.2	1	µg/L	
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.8	0.2	1	µg/L	
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	2/27/2012	CHTK03102-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	3/27/2012	CHTK03102-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	4/26/2012	CHTK03102-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	5/29/2012	CHTK03102-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.4	0.2	1	µg/L	
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	6/26/2012	CHTK03102-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.5	0.2	1	µg/L	
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	7/18/2012	CHTK03102-M0812	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.3	0.2	1	µg/L	
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.1	0.2	1	µg/L	
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.2	0.2	1	µg/L	
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	8/28/2012	CHTK03102-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	9/27/2012	CHTK03102-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	10/25/2012	CHTK03102-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	11/28/2012	CHTK03102-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03102	12/26/2012	CHTK03102-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U

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Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	1/31/2012	CHTK03201-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	2/27/2012	CHTK03201-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	3/27/2012	CHTK03201-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	4/26/2012	CHTK03201-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	5/29/2012	CHTK03201-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.1	0.2	1	µg/L	
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	6/26/2012	CHTK03201-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.4	0.2	1	µg/L	
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	BRL	0.19	1	µg/L	J
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	1.2	0.2	1	µg/L	
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.2	0.2	1	µg/L	
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	8/28/2012	CHTK03201-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	9/27/2012	CHTK03201-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	10/25/2012	CHTK03201-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	11/28/2012	CHTK03201-M1212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03201	12/26/2012	CHTK03201-M0113	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	1/31/2012	CHTK03202-M0212	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	2/27/2012	CHTK03202-M0312	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	3/27/2012	CHTK03202-M0412	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	4/26/2012	CHTK03202-M0512	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	BRL	0.2	1	µg/L	J
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	5/29/2012	CHTK03202-M0612	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1	0.2	1	µg/L	
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	1	0.2	1	µg/L	
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.3	0.2	1	µg/L	
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	6/26/2012	CHTK03202-M0712	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	8/28/2012	CHTK03202-M0912	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	ND	0.18	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	BRL	0.2	1	µg/L	J
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	ND	0.2	1	µg/L	U

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Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	BRL	0.2	1	µg/L	J
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	BRL	0.2	1	µg/L	J
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	9/27/2012	CHTK03202-M1012	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,1-TRICHLOROETHANE	BRL	0.18	1	µg/L	J
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	ND	0.13	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,1,2-TRICHLOROETHANE	ND	0.11	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHANE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,1-DICHLOROETHENE	ND	0.13	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2,4-TRICHLOROBENZENE	ND	0.21	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.15	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROBENZENE	ND	0.16	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,2-DICHLOROPROPANE	ND	0.5	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,3-DICHLOROBENZENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOCHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	BROMODICHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOFORM	ND	0.12	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	BROMOMETHANE	ND	0.5	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	CARBON TETRACHLORIDE	1.1	0.2	1	µg/L	
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROBENZENE	ND	0.17	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROETHANE	ND	0.5	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	J
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	CHLOROMETHANE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	DIBROMOCHLOROMETHANE	ND	0.15	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	ETHYLBENZENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	M,P-XYLENE (SUM OF ISOMERS)	ND	0.4	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	METHYLENE CHLORIDE	ND	1	2	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	STYRENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	ND	0.19	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	TOLUENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	TRICHLOROETHENE (TCE)	BRL	0.2	1	µg/L	J
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	1.3	0.2	1	µg/L	
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	cis-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	tert-BUTYL METHYL ETHER	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	U
85PLT03202	10/25/2012	CHTK03202-M1112	N/A	N1	WW	SW8260B	SW5030	trans-1,3-DICHLOROPROPENE	ND	0.1	1	µg/L	U
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	1,1,2,2-TETRACHLOROETHANE	2	0.13	1	µg/L	S
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	1,4-DICHLOROBENZENE	ND	0.19	1	µg/L	US
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	BENZENE	ND	0.2	1	µg/L	US
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	CARBON TETRACHLORIDE	ND	0.2	1	µg/L	US
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	CHLOROFORM	BRL	0.2	1	µg/L	JS
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	TETRACHLOROETHENE (PCE)	1.5	0.19	1	µg/L	S
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	TRICHLOROETHENE (TCE)	6.2	0.2	1	µg/L	S

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	VINYL CHLORIDE	ND	0.2	1	µg/L	US
BHW493181	5/30/2012	CHPH03181-A0612DIFS	180.31	N1	WG	SW8260B	SW5030	cis-1,2-DICHLOROETHENE	ND	0.2	1	µg/L	US
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	CHLOROFORM	2.4	0.05	0.5	µg/L	
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	ND	0.08	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0007	9/4/2012	CHPJ00007-A0912DIF	58.2	N1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	CHLOROFORM	2.8	0.05	0.5	µg/L	
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	BRL	0.08	0.5	µg/L	J
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0008	9/4/2012	CHPJ00008-A0912DIF	60.4	N1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1,1,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1,1-TRICHLOROETHANE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1,2,2-TETRACHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1,2-TRICHLOROETHANE	ND	0.06	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1-DICHLOROETHANE	BRL	0.04	0.5	µg/L	J
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,1-DICHLOROPROPENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2,3-TRICHLOROPROPANE	ND	0.08	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2,4-TRICHLOROBENZENE	ND	0.02	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2,4-TRIMETHYLBENZENE	ND	0.03	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	ND	0.03	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2-DICHLOROBENZENE	ND	0.03	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2-DICHLOROETHANE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,2-DICHLOROPROPANE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,3-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,3-DICHLOROPROPANE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	1,4-DICHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	2,2-DICHLOROPROPANE	ND	0.07	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	2-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	4-CHLOROTOLUENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BROMOBENZENE	ND	0.03	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BROMOCHLOROMETHANE	ND	0.02	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BROMODICHLOROMETHANE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BROMOFORM	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	BROMOMETHANE	ND	0.1	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	CARBON TETRACHLORIDE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	CHLOROBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	CHLOROETHANE	ND	0.07	0.5	µg/L	UJ
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	CHLOROFORM	0.72	0.05	0.5	µg/L	
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	CHLOROMETHANE	ND	0.08	0.5	µg/L	U

Attachment F
Analytical Laboratory Results, January - December 2012
Landfill-1/Chemical Spill-23 2012 Summary Letter Report

Location	Date	Sample ID	Depth	Type	Matrix	Test	Prep	Analyte	Result	DL	RL	Units	Qual
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	DIBROMOCHLOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	DIBROMOMETHANE	ND	0.03	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	DICHLORODIFLUOROMETHANE	1.5	0.08	0.5	µg/L	
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	ETHYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	HEXACHLOROBUTADIENE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	ISOPROPYLBENZENE (CUMENE)	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	M,P-XYLENE (SUM OF ISOMERS)	ND	0.07	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	METHYLENE CHLORIDE	ND	0.1	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	NAPHTHALENE	ND	0.06	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	O-XYLENE (1,2-DIMETHYLBENZENE)	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	P-CYMENE (p-ISOPROPYLTOLUENE)	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	SEC-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	STYRENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	TETRACHLOROETHENE (PCE)	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	TOLUENE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	TRICHLOROETHENE (TCE)	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	TRICHLOROFLUOROMETHANE	ND	0.06	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	VINYL CHLORIDE	ND	0.07	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	cis-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	cis-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	n-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	n-PROPYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	t-BUTYLBENZENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	tert-BUTYL METHYL ETHER	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	trans-1,2-DICHLOROETHENE	ND	0.04	0.5	µg/L	U
BOMW0009	9/4/2012	CHPJ00009-A0912DIF	81.75	N1	WG	E524.2	METHOD	trans-1,3-DICHLOROPROPENE	ND	0.05	0.5	µg/L	U

Data Source: AFCEC, February 2013, MMR-AFCEC Data Warehouse

Key:

BRL = below reporting limit
DL = detection limit
FD1 = field duplicate
J = estimated value
JS = estimated value for screening analysis
N/A = not applicable
ND = not detected
N1 = native sample
RL = reporting limit
S = screening analysis
U = undetected
WA = borehole water
WG = groundwater
WS = surface water
WW = wastewater
µg/L = micrograms per liter